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An Address
ON
THE PATHOLOGY AND TREATMENT OF THE OCULAR COMPLICATIONS OF GONORRHŒAL INFECTION.

Delivered before the Hunterian Society on Nov. 14th, 1906,

BY W. J. McC. ETTLES, M.D., CH.M.ABERD., F.R.C.S. EDIN.,
FELLOW OF THE SOCIETY.

MR. PRESIDENT AND GENTLEMEN,—Before proceeding, permit me to express my deep sensibility of the compliment implied by your request that I should undertake the study of ocular manifestations in this general review of our knowledge of gonorrhœal affections. In order that, within the necessarily brief limits accorded me, I might have sufficient time for the discussion of more modern views on causes and treatment, I have ventured to eliminate references, on the one hand, to such excessively rare conditions as gonorrhœal dacryoadenitis or suppuration of the accessory sinuses of the orbit and, on the other hand, to well understood points, such as the clinical evidence of ophthalmia or iritis, as well as the treatment of iritis and corneal ulcer. The points which will be submitted to you are (*a*) the prophylaxis of ophthalmia neonatorum; (*b*) the genesis and incubation of gonorrhœal conjunctivitis and iritis; and (*c*) the specific treatment of gonorrhœal conjunctivitis whether attacking the adult or the newly born eye.

THE PROPHYLAXIS OF OPHTHALMIA NEONATORUM.

In the history of the campaign against gonococcal invasion four signal successes stand out in strong relief. The first was the recognition of gonorrhœa as a distinct pathological condition by Ricord in 1831; the second, the discovery of the gonococcus by Neisser and Bouchard in 1878; the third, the fulfilment of Koch's postulates by Bumm and later workers; and the fourth, the discovery of the influence of silver salts by Credé in 1880. "Lest we forget" how important that treatment is, let me refer to the statement of Girales:[1] "The loss in the Foundling Hospital of Paris, at a period just before the Franco-German war, was between 80 and 90 per cent. of all births." 20 years ago it was calculated that there were over 300,000 blind people in Europe and from the reports of the blind asylums at that time it appeared that "30 to 50 per cent. of the inmates owed their profound misfortune to this, a wholly preventable disease." We must not be misled into thinking that its ravages are abating. As Professor Haab[2] recently remarked, "it is the direct cause of blindness in one-third of all cases, being surpassed in this respect only by small-pox in countries where vaccination is not efficiently enforced ..... in spite of the higher standard of midwifery and more competent medical treatment of the present day, the disease defies all efforts to eradicate it because of the negligence on the part of the persons in attendance not seeking assistance early enough, and because the disease is, and always will be, dangerous in spite of the improved methods of treatment."

The striking value of Credé's method is shown by the returns of large maternity charities where it is rigidly enforced. Within the antiseptic period the proportion beforehand was about 1 in every 5 cases; immediately after it dropped to about 1 in every 500, at which approximation it remains. Owing mainly to what the newspapers recently termed "our national squeamishness" ophthalmia neonatorum is more prevalent in Great Britain than it is abroad; at any rate, in the German-speaking States. As Dr. G. E. Herman, a former president of this society, pointed out at a recent discussion at the Obstetrical Society of London, the young practitioner hesitates to employ Credé's drops in every case lest it should be said of him that "he always does something to the baby's eyes which causes them to become inflamed," while it would be impossible for him to justify his action on the ground that gonorrhœal infection might be present. Popular prejudice is a terrible obstacle and one can sympathise with the difficulty.

Fortunately we now have at our command the organic compounds of silver which have even more prophylactic value than the nitrate without possessing its irritant properties.[3] In view of the tragic potentialities of the disease their use should surely be compulsory. The cleansing of the eyes should never be delegated to the nurse. A quantity of protargol, which can be very conveniently carried in compressed tablets, is dissolved in boiled and cooled water—it need not be distilled—in sufficient amount to make a fresh 6 per cent. solution. This is poured into the conjunctival sacs and the lids are so separated as to permit the fornices being reached. There is no inflammatory reaction. Collargol is also very well tolerated by the epithelium and so is argyrol, but the last named I have found less active and reliable than either of the former. The whole procedure is a very simple one and we may contrast it with that recently advocated by Stellwag and Wintersteiner,[4] who irrigate the eyes with a 1 in 1000 solution of permanganate of potassium and daily instil 2 per cent. of nitrate during the whole lying-in period. In justice to them I must explain that their idea is absolutely to stamp out the disease, but the method is too rigorous for universal adoption.

THE GENESIS AND INCUBATION OF GONORRHŒAL CONJUNCTIVITIS AND IRITIS.

Like the urethral affection, we may divide the clinical history of ophthalmia into the several stages of incubation, copious discharge, and ocular gleet. When we compare the incubation period as generally given in text-books we find it is greatly at variance with that of urethritis. Some go so far as to say that the symptoms "*usually* begin within a few hours after infection;"[5] whereas in the urethra "it very rarely occurs that the period of incubation is less than two days. Instances recorded as such are generally to be explained as exacerbations of latent chronic gonorrhœa, and not as fresh infections."[6] The discrepancy is mainly due to the difficulty, often the impossibility, of ascertaining the exact moment of inoculation, at least in adult cases. The rubbing of the lids is an almost unconscious act, while the day and hour of an impure connexion is usually branded on the memory of the sufferer. In point of fact, the actual period has been determined beyond cavil by experimental inoculation. Some years ago it was a legitimate treatment of inveterate trachomatous pannus to inoculate the eye with gonorrhœal matter, and where that was done the incubation was found to be an invariable period of 60 hours.[7] It is, however, becoming increasingly clear that we may have a true metastatic or endogenous infection due in some instances to the presence of the organism and in others to that of a toxin. Such cases have recently been described by Swan M. Burnett,[8] Giani,[9] and notably by Sidney Stephenson and Rosa Ford.[10] The two last-named collected a remarkable series of cases in which the membranes ruptured within 24 hours of delivery and yet the disease was either present at birth or commenced within 24 hours thereof. In most of their own cases the gonococcus was found, but in some it was absent. Only three weeks ago I had an opportunity of seeing a case, by the courtesy of Dr. W. J. Galt, in which a middle-aged man with antero-posterior urethritis developed a sudden bilateral purulent ophthalmia. No microbes were found in the discharge in spite of the most careful search, whereas myriads were present in the urethral pus. Giani proposes to classify such cases as paragonorrhœal, in the same sense as Fournier grouped the parasyphilitic lesions. In all cases we find a pre-existing focus of infection from which organisms or toxins can gain entrance to the circulation. In adults it is noteworthy that disease of the posterior urethra is invariably present, while joint affections are commonly associated.

It is in connexion with this probable gonotoxin that I would introduce the question of iritis. Here also we find a well-defined complication, not dependent on the actual presence of the microbe in the lesion, invariably associated with posterior urethritis, and generally with arthroses (Baylac,[11] Galezowski,[12] and others). Iritis is, I believe, a

[1] Saious: Annual of the Universal Medical Sciences, 1888.
[2] Atlas of the External Diseases of the Eye, p. 113 (Saunders, 1903).

[3] Dauber: Münchener Medicinische Wochenschrift, 1904, No. 7.
[4] Wiener Klinische Wochenschrift, 1904, No. 37, p. 968.
[5] Hayden: Venereal Diseases, 3rd edition (Kimpton, 1902).
[6] Leedham-Green: Treatment of Gonorrhœa in the Male, p. 16 (Baillière, 1906).
[7] Bellouard: Thèse de Paris, 1892.
[8] Journal of the American Medical Association, Dec. 23rd, 1905.
[9] Rivista Italiana di Ottalmologia, August, 1906.
[10] The Ophthalmoscope, April, 1906.
[11] La Clinique Ophtalmologique, March 25th, 1905.
[12] Recueil d'Ophtalmologie, June, 1905.

commoner complication than is generally supposed. The presence of gonorrhœal rheumatism is exceedingly likely to cause its being mistaken for ordinary rheumatic iritis, especially as the patient will seldom volunteer a statement about his urethritis, and, in two misguided cases I have seen, actually denied its presence. In women it is, of course, exceedingly difficult to make sure of the diagnosis.

THE TREATMENT OF GONORRHŒAL CONJUNCTIVITIS.

Taking the ordinary case of an infant, commencing on the third day, we find the usual condition: the upper lid red, glossy, œdematous, overhanging the lower; the lids gummed by dried matter, the scarlet villous palpebral conjunctiva and the ropy pus. The microscope may be used to clinch the diagnosis, but it is a matter of scientific rather than therapeutic interest. What we at once look at is the cornea, and as to this we have a rule—almost a canon of surgery—"if the cornea is clear a favourable issue may be predicted." The neonatal cornea is exceedingly vulnerable, the more so as there are no tears to protect it and the affected infants are so often syphilitic. At the best, the cornea is not remarkable for vitality. Dependent for its nutrition on lymph diffusing along the interlamellar canals from the marginal vascular loops, any stasis in the circumcorneal vessels will threaten necrosis. In the infant it is thinner as to the substantia propria and yet more so in the epithelium, where, instead of a transitional layer five or six cells thick, it consists of one layer of squames on a single layer of cuboidal cells. Hence we can understand how it is that whilst in the adult the ulcers are usually peripheral and are caused by the retention of pus between the corneal edge and the overhanging ring of chemosed conjunctiva in the infant the ulcer is central from simple devitalisation. That such stasis exists is clear from the researches of Schridde,[13] Golesceano,[14] and others.

On the question of remedies, beyond a universal admission of the specific value of silver salts, the atmosphere is almost polemic. For some time nitrate of silver was thrown in the shade by the newer organic preparations, whose universal goodness glowed so enticingly in our daily batch of circulars. But it was not long before it came into its own again and we find Th. Saemisch, in the new edition of Graefe and Saemisch's "Handbuch für Augenheilkunde," discarding entirely the new compounds and pinning his faith to the old salt. In this he is supported by many of the foremost authorities, notably by Bernheimer,[15] Baillart,[16] and Alvarado.[17] So far the strongest rival of the nitrate is protargol,[18] and Saemisch's attack elicited a vigorous rejoinder from Pfalz[19] who has used protargol exclusively for six years and never required a solution stronger than 10 per cent.

In my own experience I have learned to rely greatly on protargol much more than on any of the others, but one difficulty—and it is indeed a drawback—is the need for its continuous use in a serious case. Whereas with the nitrate one can manage well with three applications daily, with protargol applications have to be made every half hour, day and night, so that the patient, to say nothing of the attendants, is worn out by want of sleep. Apart from this, it is questionable if it is really equal to the nitrate, as witness the statement of Darier and Abadie,[20] that whenever the cornea shows signs of necrosis they always resort to the nitrate. In the adult my practice is, firstly, to irrigate the sound eye and then to instil 10 per cent. protargol before putting on the Buller shield, since we have no ground for assuming its freedom from infection. The affected eye is then irrigated thrice daily with 200 cubic centimetres of a solution of nitrate, 1 in 300, in warm distilled water. After each irrigation, applied by a glass undine, I instil two drops of 2 per cent. nitrate and do not neutralise with salt solution. In all adult cases I divide the external canthus. This may seem a heroic proceeding but in view of the extreme danger to sight it is insignificant. One blade of a pair of strong scissors is pushed under the commissure as far as it will go, and the intervening tissues are severed at a single stroke. The outer tarsal ligament is very resilient and will elude the grasp of any but sharp blades. It is remarkable how greatly this facilitates the proper handling of a case. The cornea is at once removed from pressure as the œdematous lids are depleted by the free bleeding and orbicular spasm is also done away with. Even more valuable is the free access to the retrotarsal folds. Contrary to what one would expect, when all swelling has subsided, there is very little wound left and blepharoplasty is not needed, although that would be a simple matter if it were. During the interval between the irrigations it is usual to employ frequently renewed dressings kept moist and cold on a block of ice. As a general surgical measure, the use of cold topical applications is diminishing as a result of our increased acquaintance with the pathology of inflammation. This applies with unusual force to ophthalmic surgery, where there is *ab initio* a lessened vitality, in the face of which it is illogical to reduce the corneal temperature, and where, moreover, owing to the thinness of the intervening tissues, the temperature can be influenced to an unusual degree. Warm applications, on the other hand, maintain an impaired nutrition and are much more grateful to the patient than cold ones. When the stage of ocular gleet has been reached it will be found, as in urethral work, that simple astringents are of more use than the antiseptics. There are many which may be employed but I have found none superior to the old-fashioned "lapis divinus" rubbed on the inner surfaces of the lids.

[13] Zeitschrift für Augenheilkunde, December, 1905.
[14] Recueil d'Ophtalmologie, July, 1904.
[15] Klinische Monatsschrift für Augenheilkunde, 1906, Band i., S. 253.
[16] Bulletin Général de Thérapeutique, August 30th, 1906.
[17] Archiv de Oftalmologia Hispano-Americanos, April, 1906.
[18] Darier: Les Nouveaux Sels d'Argent en Thérapeutique Oculaire, Paris, 1906.
[19] Zeitschrift für Augenheilkunde, March, 1905.
[20] Comptes Rendus de l'Société d'Ophtalmologie, Paris, December, 1905.

ON SUBSTANCES FAVOURING AND INHIBITING THE ACTION OF THE HÆMOLYSINS OF BILE AND SERUM.

BY M. ARMAND RUFFER, M.A., M.D. OXON., C.M.G.,
AND
M. CRENDIROPOULO.
(*From the Port Vieux Laboratory, Alexandria.*)

INTRODUCTION.

IN the course of some previous investigations it was noticed that an animal might have marked jaundice without any obvious alterations in the structure of red corpuscles and that the serum of an animal had a hæmosozic effect on the bile of that species of animals from which the serum had been taken. Later, we showed that urine prevented the action of certain hæmolytic sera and that this hæmosozic effect could not be due to the presence of salts only, as dialysed urine had the same effect. The present paper is concerned with the influence of various substances (salts, urine, sugars) on the hæmolysis produced by various fluids such as bile, and specific sera.

I. EFFECT OF CONCENTRATION OF SALTS ON BILE.

Methods Used.

(*a*) *Preparation of blood.*—A measured quantity of fresh ox blood was washed with normal (9 per 1000) salt solution and centrifugalised. The supernatant liquid was decanted and replaced with fresh normal salt solution, and after this process had been repeated three times the washed blood corpuscles were suspended in a quantity of normal salt solution equal to the original volume of fluid. When used, the washed blood was never more than two or three hours old.

(*b*) *Preparation of standard solution of bile.*—As the hæmolytic properties of bile vary greatly a solution of approximately constant strength was prepared by suspending a measured volume of bullock's blood (prepared as above) in normal salt solution and ascertaining what amount of bile dissolved the blood completely in ten minutes. If, for instance, one volume of bile added to nine volumes of (9 per 1000) salt solution dissolved one volume of blood in ten minutes, then the standard solution used on that day was made up of nine cubic centimetres of normal salt solution plus one volume of bile. If two volumes of bile dissolved one volume of blood, the standard solution for the day contained two cubic centimetres of bile and eight volumes of salt solution. Such a standard solution (hereafter called standard bile) was prepared every day. Unless otherwise stated 0·1 cubic centimetre of this standard bile was added to each cubic centimetre of fluid in all our experiments.

(*c*) *Preparation of mixture of blood and bile.*—1 per cent., 10 per cent., or more concentrated solutions of the salts to be tested were prepared and varying volumes of these solutions were added in test-tubes to distilled water in such proportions that each tube contained exactly one cubic

centimetre of fluid. Standard bile and blood were then added. (Slight hæmolysis = +. Intermediate stages = + + and + + +. I means that the blood dissolved completely in not more than half an hour. D means that more than half an hour elapsed between the addition of the blood and complete hæmolysis. The numbers in parentheses indicate in hours the time after which hæmolysis was complete. St. B. = standard bile. The experiments were always considered as complete after 18 hours.)

Experiments with sodium chloride.—If one drop of blood be added to 0·9 cubic centimetre of normal salt solution together with 0·1 of standard bile no hæmolysis takes place, but if the blood is suspended in the same volume of a hypertonic solution of the same salt and the same quantity of bile the result is quite different. The following table illustrates this:—

TABLE I.—*Blood Suspended in Sodium Chloride Solutions plus Standard Bile (0·1 cubic centimetre).*

NaCl.	Result.
0·05 per cent.	00
1·3 "	++
2·2 "	D (5)
3·3 "	I

Hypertonicity therefore favours the hæmolytic action of bile. This fact can be demonstrated in another way. Standard bile is diluted with various volumes of physiological salt solution and each of these dilutions is tested on blood suspended in salt solutions of various strengths.

TABLE II.—*Blood Suspended in Sodium Chloride Solutions plus Standard Bile.*

—	Sodium chloride solutions.						
	0·05 %	0·86 %	1·3 %	1·6 %	2·2 %	2·7 %	3·3 %
St. B. 1·0 c.c.	00	00	++	++	D (5)	D (5)	I
" 0·05 c.c.	00	00	00	00	++	?	D (18)
" 0·015 c.c.	00	00	00	00	00	00	+++

These and many other experiments show that a solution of bile too weak to hæmolyse blood suspended in isotonic solutions dissolves the same blood suspended in hypertonic solutions of the same salt.

Action of concentrated solutions of sodium chloride.—The following table shows the action of bile suspended in very concentrated solutions.

TABLE III.—*Blood Suspended in Sodium Chloride Solutions plus Standard Bile.*

—	Sodium chloride solutions.		
	10 %	20 %	30 %
St. B. 0·02 c.c.	+++	I	I
" 0·01 c.c.	00	+++	I
" 0·005 c.c.	00	++	I

The more hypertonic the solution the more active the hæmolytic properties of bile. Whereas, for instance, 0·1 cubic centimetre of standard bile does not hæmolyse blood suspended in normal salt solution, a volume of bile 20 times less immediately dissolves the same blood suspended in 30 per cent. of salt solution.

Action of concentrated solutions of sodium chloride.—It must be borne in mind that concentrated solutions of sodium chloride and alkaline earths dissolve bovine red blood corpuscles after some hours. This action, however, is very slow and not to be compared with the immediate hæmolytic action of bile added to these concentrated solutions.

Conclusions.—1. Bile is least hæmolytic when blood is suspended in isotonic solutions of sodium chloride. 2. The more concentrated the salt solution the less is the quantity of bile necessary to dissolve a given volume of blood.

Hæmolytic action of bile on blood suspended in solution of other salts.—Solutions of various salts of gradually increasing concentrations were prepared, and one drop of blood was suspended in one cubic centimetre each of these solutions, and 0·1 cubic centimetre of standard bile was added. Table IV. gives the main results of these experiments.

A certain volume (0·1 cubic centimetre) of standardised bile, therefore, added to one cubic centimetre of an isotonic or nearly isotonic solution of certain salts (e.g., sulphate of sodium, barium chloride, phosphate of ammonium, nitrate of ammonium, magnesium salts, and chloride calcium) dissolves one drop of blood within half an hour. The same volume of bile mixed with one cubic centimetre of a solution of the other salts (sodium chloride, iodide of potassium, bromide of sodium, nitrate of sodium, chloride of potassium, &c.) dissolves one drop of blood suspended in markedly hypertonic solutions. The activity of bile increases as the solutions become more hypertonic, just as it does in NaCl solutions. The salts of the first group (sulphate of sodium, &c.) also are least active when blood is suspended in isotonic or slightly hypertonic solutions. This can easily be proved by diminishing the quantity of bile. Let us take $CaCl_2$ as an example.

TABLE V.—*Blood Suspended in Calcium Chloride Solutions.*

—	Calcium chloride solutions.			
	1 %	2 %	3 %	4 %
St. B. 0·1 c.c.	I	I	I	I
" 0·05 c.c. ...	I	I	I	I
" 0·025 c.c. ...	—	—	—	I

0·025 of standard bile, therefore, is least hæmolytic in an isotonic or nearly isotonic $CaCl_2$ solution. Similarly, when 0·05 of standard bile is added to a 2 or 3 per cent. solution of barium chloride hæmolysis is retarded. With 0·025 of standard bile hæmolysis is absent in a 2 or 3 per cent. solution of barium chloride but takes place immediately in more concentrated solutions. By suitably diminishing the volume of bile the same results may be obtained with all the salts of the first group.

Comparative action of salts.—Certain salts therefore favour the hæmolytic properties of bile far more than others. An approximate idea of the favouring properties of each salt is obtained by adding varying volumes of standardised bile to

TABLE IV.—BLOOD SUSPENDED IN SOLUTIONS OF VARIOUS SALTS PLUS STANDARD BILE.

Strength of solution.	NaCl	NaI	Na_2SO_4	NaBr	$NaNO_3$	KCl	KNO_3	KBr	KI	$BaCl_2$	$(NH_4)_2SO_4$	$(NH_4)_3PO_4$	NH_4NO_3	$MgSO_4$	$MgCl_2$	$CaCl_2$
7 per 1000 ...	–	I	I	I	D	I	I	I	I	I	I	I	I	I	I	I
8 " ...	–	I	I	I	+++	D	I	I	I	I	I	I	I	I	I	I
9 " ...	–	I	I	I	++	–	++	I	I	I	I	I	I	I	I	I
1 per cent. ...	–	I	I	I	–	–	–	+++	–	I	I	I	I	I	I	I
2 " ...	–	–	I	–	–	–	–	–	–	D	–	I	D	I	I	I
3 " ...	–	–	I	–	–	–	–	–	–	I	–	I	D	D	I	I
4 " ...	–	–	I	–	–	++	–	–	+	I	–	I	D	I	I	I
5 " ...	D	–	I	–	–	D	–	++	+	I	–	I	D	I	I	I
6 " ...	D	–	I	+	+++	I	–	+++	++	I	–	I	D	I	I	I
7 " ...	D	–	I	++	I	I	D	I	++	I	–	I	D	I	I	I
8 " ...	D	I	I	+++	I	I	I	I	++	I	–	I	I	I	I	I
9 " ...	I	I	I	D	I	I	I	I	+++	I	–	I	I	I	I	I
10 " ...	I	I	I	D	I	I	I	I	+++	I	I	I	I	I	I	I
11 " ...	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I

blood suspended in isotonic or nearly isotonic solutions of each salt and ascertaining the quantity of bile producing hæmolysis in each case. Such an experiment is noted in the following table.

TABLE VI.—*Comparative Action of Salts.*

Isotonic solutions of—	St. B. 0·1	St. B. 0·05	St. B. 0·03	St. B. 0·025
Sodium chloride	–	–	–	–
Potassium nitrate	–	–	–	–
Sodium iodide	D (5)	+	–	–
Sodium bromide	D (5)	++	+	–
Sodium nitrate	D (18)	+	+	–
Magnesium sulphate	I	D (18)	++	–
Barium chloride	D (5)	+++	+	+
Calcium chloride	I	D (15)	+++	++

Magnesium sulphate and calcium chloride therefore favour hæmolysis most, and sodium and potassium chloride least. A table might be constructed showing in actual numbers the favouring effect of each salt and it can thus be shown, for instance, that bile acted on blood suspended in a 15 per cent. solution of $CaCl_2$ 60 to 80 times more powerfully than on blood suspended in an isotonic solution of NaCl. Such a table would have but little value unless all the experiments made on the same day had been with the same bile, on the same blood—conditions not easily realised. Calcium chloride and other salts favouring hæmolysis exert their action even in presence of less active salts—e.g., NaCl. If, for instance, an isotonic solution of $CaCl_2$ be added to a non-hæmolytic mixture of sodium chloride 1 cubic centimetre (0·9 per cent.), bile (standard bile 0·1 cubic centimetre), and blood (one drop), hæmolysis begins as soon as the solution contains 0·018 per cent. and is complete when the solution contains 0·54 per cent. of $CaCl_2$.

II. EFFECT OF CONCENTRATION OF SALTS ON HÆMOLYTIC SERA.

In all these experiments the blood corpuscles were prepared in exactly the same manner as before. The sera came from animals repeatedly injected with large quantities of bovine red blood corpuscles. A 1 per 1000 solution dissolved one drop of bovine red blood corpuscles suspended in one cubic centimetre of a 9 per cent. solution of sodium chloride.

Effect of sodium chloride.—If blood be suspended in solutions of sodium chloride of varying strengths and serum be added, the hæmolysis differs in intensity according to the amount of salt present.

TABLE VII.—*Blood Suspended in Sodium Chloride Solution and in Sodium Chloride Solution plus Serum (1 per 1000).*

Sodium chloride solution.	Result.	Sodium chloride solution + serum (1 per 1000).	Result.
5 per 1000	+++	5 per 1000 ... +1 ...	C
6 ,, ...	+	6 ,, ... +1 ...	C
7 ,, ...	00	7 ,, ... +1 ...	C
8 ,, ...	00	8 ,, ... +1 ...	C
9 ,, ...	00	9 ,, ... +1 ...	C
1 per cent.	00	1 per cent. ... +1 ...	+++
2 ,, ...	00	2 ,, ... +1 ...	–

(By C is meant complete hæmolysis in less than 18 hours.)

In higher concentrations of salts no hæmolysis takes place. Evidently, therefore, the serum is most active in isotonic or nearly isotonic solutions of sodium chloride and inactive in hypertonic solutions.

Effect of other salts on hæmolysis.—Blood was suspended in solutions of various salts differing in strength and the same quantity of serum (1 per 1000) was added to each. The main results of these experiments are embodied in Table VIII. (On the left hand of the table the effect of the various salts acting alone on the blood is tabulated. Under each strength of salt the result of the experiment is entered. On the right hand of the table the effect of salt solution to which 1 per 1000 hæmolytic serum has been added is given.) N.B.—Solutions less concentrated than the lowest concentration given in each table always hæmolysed immediately.

Hæmolytic serum added to blood suspended in isotonic or nearly isotonic solutions of many salts does not hæmolyse. When the salt is less concentrated the solution plus serum may be less hæmolytic than the salt solution alone. With other salts—namely, bromide of sodium, the chloride of potassium and sodium and iodide of sodium, the serum dissolves blood corpuscles suspended in isotonic or nearly isotonic solutions, but not in hypertonic solutions. Whereas, therefore, bile is most active in hypertonic solutions of salts, hæmolytic serum is least active under such conditions.

Marked inhibitive action of certain salts.—It has been shown already that certain salts, more especially chloride of calcium, greatly favour the hæmolysis produced by bile, but not that of hæmolytic serum. The action of calcium

TABLE VIII.—BLOOD SUSPENDED IN SOLUTIONS OF VARIOUS SALTS, AND ALSO WITH THE SAME QUANTITY OF SERUM (1 PER 1000) ADDED TO EACH.

Salt.	Strength of solution.					Strength of Solution + serum 1 per 1000.				
KBr			2 per cent. 0			1 per cent. +++			2 per cent. 0	
NaBr	3 per cent. +++		4 per cent. 0			5 per cent. +++			6 per cent. 0	
$BaCl_2$			3 per cent. 0			2 per cent. +			3 per cent. 0	
$CaCl_2$			2 per cent. 0			9 per 1000 +++	1 per cent. +		2 per cent. 0	
$MgCl_2$	1 per cent. +		2 per cent. 0			7 per 1000 ++	8 per 1000 ++	9 per 1000 ++	1 per cent. +	2 per cent. 0
KCl	7 per 1000 +++	8 per 1000 ++	9 per 1000 +	1 per cent. 0		9 per 1000 C	1 per cent. +		2 per cent. 0	
NaCl...	5 per 1000 +++	6 per 1000 +	7 per 1000 +	8 per 1000 0	9 per 1000 0	1 per cent. +++	2 per cent. 0			
KI			2 per cent. 0			2 per cent. +++	3 per cent. 0			
NaI			2 per cent. 0			2 per cent. C	3 per cent. 0			
$(NH_4)_2PO_4$ ...	2 per cent. +		3 per cent. 0			1 per cent. +++	2 per cent. 0			
$(NH_4)_2SO_4$ ...	2 per cent. +++	3 per cent. 0	4 per cent. 0			2 per cent. +	3 per cent. 0			
$MgSO_4$	3 per cent. +++		4 per cent. 0			2 per cent. C	3 per cent. 0			

chloride on hæmolytic sera is very remarkable and is demonstrated in the following experiment:—

TABLE IX.—*The Action of Calcium Chloride on Hæmolytic Sera.*

—	Serum.	Physiological salt solution.	1% CaCl solution.	Red blood corpuscles.	Result.
I.	0·1	0·8	0·1	1 drop.	+++ (18 h.)
II. ...	,,	0·7	0·2	,,	+
III. ...	,,	0·6	0·3	,,	00

As soon as the solution contains 0·03 per cent. of calcium chloride no hæmolysis takes place. This action of calcium chloride on hæmolytic serum, therefore, is exactly the opposite of the action of the same salt on bile and, it may be added incidentally, on some agglutinating sera.

Effect of adding increased quantities of serum to red blood corpuscles suspended in hypertonic salt solutions.—As has been shown already, hæmolytic serum (1 per 1000) acting rapidly on blood suspended in a 9 per 1000 solution of sodium chloride does not dissolve blood suspended in a 2 per cent. solution of the same salt. Another series of experiments showed that no hæmolysis takes place as soon as the mixture contained 1·4 per cent. of sodium chloride, even if the volume of serum be increased. If, for instance, instead of 1 per 1000, 1·25 per cent. of serum was added, no hæmolysis took place when the mixture contained 1·4 per cent. of sodium chloride. Even more remarkable is the inhibiting effect of calcium chloride. Whereas a 1 per 1000 solution of a given serum immediately hæmolyses a given quantity of blood suspended in a 9 per 1000 solution of sodium chloride, a 1 per cent. solution of the same serum is inactive as soon as the mixture contains 0·03 to 0·04 per cent. of calcium chloride.

III. EFFECT OF URINE ON THE HÆMOLYSIS PRODUCED BY BILE AND SERUM.

From the fact that urine contains a large quantity of salts it was confidently expected that it would have a favouring effect on the hæmolysis produced by bile. The following experiment confirms this view.

TABLE X.—*The Effect of Urine on the Hæmolysis produced by Bile and Serum.*

—	Bile.	Physiological salt solution.	Human urine.	Blood.	Result.
I. (Control)	0·02	1 c.c.	0	1 drop.	+
II. ,,	,,	0·5	0·5	1 ,,	++
III. ,,	,,	0·4	0·6	1 ,,	+++
IV. ,,	,,	0·3	0·7	1 ,,	1
V. ,,	,,	0	1 c.c.	1 ,,	1

In a further series of experiments half this quantity of bile hæmolysed almost completely one drop of blood suspended in human urine, but not the same quantity of blood suspended in physiological salt solution. The favouring effect of urine, however, is not wholly due to the salts contained in it.

Experiment.—50 cubic centimetres of fresh human urine were mixed with 150 cubic centimetres of absolute alcohol and the precipitate was dialysed until all the salts had disappeared. The liquid remaining in the dialyser was precipitated with twice its volume of alcohol. Physiological salt solution was then added to the precipitate until the total amount of fluid amounted to 25 cubic centimetres. This fluid we shall call D.U.

TABLE XI.—*The Effect of Urine Freed from Salts.*

—	Bile.	Physiological salt solution.	D.U.	Red blood corpuscles.	Result.
I. (Control)	0·2	1 c.c.	0	1 drop.	+
II. ,,	0	0	1 c.c.	1 ,,	0
III. ,,	0·2	0·5	0·5	1 ,,	1
IV. ,,	0·2	0	1	1 ,,	1

Even when half the quantity was added the blood suspended in D.U. was dissolved immediately. Urine, therefore, even when freed from salts exerts a favouring influence on the hæmolysis produced by bile.

Effect of urine on hæmolysis produced by hæmolytic sera.—This question has been fully discussed in our paper published in the *Journal de Pathologie*. Among the conclusions arrived at two are of special interest: First, human urine inhibits the hæmolysis produced by hæmolytic sera prepared by the injection into rabbits of bovine red blood corpuscles; and secondly, this anti-hæmolytic action (or hæmosozic action) is not due to the salts contained in the urine, as dialysed urine is equally effective.

Conclusion.—Human urine favours the hæmolytic action of ox bile but inhibits the hæmolytic action of sera prepared by the injection of bovine red blood corpuscles. In both cases the effect is not wholly due to the presence of salts.

Experiments with various sugars.—If 0·1 of standardised bile be added to different solutions of saccharose, glucose, or lactose, hæmolysis takes place only in highly concentrated solutions of these sugars.

TABLE XII.—*The Effect of Sugars on the Hæmolytic Action of Bile.*

—	Solutions of sugars + St. B. 0·1.											
	3%	4%	5%	6%	7%	8%	9%	10%	20%	30%	40%	50%
Cane sugar	I	I	+++	++	+	–	–	–	–	–	–	D (5)
Lactose	I	I	+++	+	–	–	–	+++	–	++	–	–
Glucose	++	++	–	–	–	–	–	–	–	–	–	D (3)

Under similar conditions the action of hæmolytic sera is different.

TABLE XIII.—*Effect of Sugars on Hæmolytic Action of Sera.*

—	Solutions of sugars + hæmolytic serum 0·1.																
	1/4	1/5	1/6	1/7	1/8	1/9	1/10	1/11	1/12	1/13	1/14	1/15	1/16	1/17	1/18	1/19	1/20
Saccharose	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	–
Glucose ...	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	–
Lactose ...	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	–

Hæmolytic serum therefore does not act when the solution of sugars is highly concentrated.

Conclusion.—High concentration of sugars favours the action of bile and hinders that of hæmolytic serum.

Alexandria.

THREE STOMACH CASES FROM THE PHYSICIAN'S STANDPOINT: A POST-GRADUATE CLINIC.[1]

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IN some quarters it seems to be thought that the time is not far distant when the art of the physician will become obsolete and be replaced by the craft of the surgeon. If this prediction be ever realised the fault will lie at the door of the physician and of the general practitioner. The latter, however much more he may be, ought certainly to be a physician, for to be a successful practitioner, in the only true sense, requires that he should be a careful and, as far as possible, a skilful diagnostician. In no region has a more debatable land arisen than in the domain of gastric disorder, and the cause of this is to be found in the following considerations.

In the very nature of things digestive and gastric disturbance comes into the hands of the practitioner and the physician. It is on them that the responsibility of diagnosis must primarily lie, and it is imperative that they should rise to their extended responsibilities in this department and

[1] These notes have necessarily been extended to make them suitable for publication.

devote themselves to the attainment of skill in the differential diagnosis of abdominal diseases. That a gastric condition may require a surgical operation no more removes it from the domain of the practitioner and the physician than the diagnosis of an empyema lies with the surgeon because he is called in to operate on it. The contrary idea is but an illustration of what we have recently heard a good deal in other affairs—a want of clear thinking. The physician has above all else, and in the first place, to be a diagnostician; and the position assumed in some quarters that he is not to be allowed to use his art in the disorders and diseases of the abdomen is as amusing as it is astounding. There is no doubt that the opening up of abdominal surgery has made it necessary to be more precise, more definite, more detailed in diagnosis than formerly. We are no longer satisfied with such diagnoses as dyspepsia, hæmatemesis, jaundice, colic, intestinal obstruction, or peritonitis; and the physician ought to be the pioneer in that whole realm of diagnosis. It is on him that the onus lies of indicating the paths and methods of differential diagnosis in the abdomen, as he has done in the thorax and in the brain. He is not justified in abandoning his birthright in internal diagnosis. Whatever difficulties there may be, or appear to be, they have to be faced and solved. Not only ought he to be a pioneer in differential diagnosis, but he ought to be more, for, however much the surgeon's craft may be requisitioned by him, he ought to know as well as the surgeon not only the diseases which require operation but also the kind of operation that may or can be done in the various diseases with which he has to deal.

Surgery is not an occult science; even such questions as the advantages of anterior or posterior gastro-enterostomy are copiously, not to say openly, discussed. The physician knows, or ought to know, that if he diagnoses certain conditions the treatment is gastro-enterostomy, although he leaves it to the surgeon to select the method of operating; and that, if he diagnoses other conditions, they are not worth meddling with unless they can be removed entirely. Sometimes one gets the impression that the physician thinks he ought not even to know what the surgeon will do in any particular case, which is as curious an affectation as if he professed ignorance of how a broken leg or a dislocated shoulder is treated. If the physician diagnoses gall-stones he knows that the surgeon to remove them has to use the knife; the line of incision and whether catgut or silk be used is no part of his responsibility, but it is absurd to affect ignorance of, or want of intelligent appreciation of, the dexterity and skill of the surgeon in carrying out all the details of the operation and the after-healing of the wound. If the physician is confident of his diagnosis he will not usually have any serious difficulty in convincing his surgical *confrère* that operation is desirable. Difficulty arises more frequently, perhaps, when the surgeon recommends an "exploratory" operation and the physician does not agree with him. The "exploratory" operation tends, indeed, to be so widely applied and advocated that it threatens to be the bane of differential diagnosis. It has its own place, but when it becomes the screen for careless, ill-informed opinion, or for ignorance of methods, it would be difficult to apply too damnatory criticism to it.

If the physician's first duty is diagnosis, his second is to know enough of surgical methods and of surgical successes to understand and appreciate what he recommends his patient to submit to. These are essential for the physician whether he be a family practitioner or a hospital consultant, for to him will assuredly come the vast majority of abdominal cases. The responsibility is laid upon him of making accurate and detailed diagnoses. There is really little difference of opinion as to what treatment ought to be pursued in definite conditions; the whole difficulty lies in a weak diagnosis. In abdominal disease and disorder there has been a sudden new demand upon the physician's skill, and there seems sometimes to be a tendency or a desire to shirk the new responsibility. This is, no doubt, largely due to the idea that as abdominal diagnosis was vague in the past it must remain so, and the champions of "exploratory" operation do nothing directly to remove this idea.

It seems to me that not only for the sake of the physician's reputation, but also for the maintenance of public confidence in surgery, every effort ought to be made to secure increasing accuracy in abdominal diagnosis—that is, in the differentiation of conditions which present a certain surface-resemblance to one another. The responsibility for such advance lies chiefly with the hospital physician, for it is he who has the material from which that can be worked out. When this is done "exploratory" operations will be undertaken on much more enlightened principles than seem at present to be in vogue. The practitioner and the physician will then realise that the diagnosis of certain conditions imperatively demands the recommendation of surgical operation. It is not primarily a question of whether to operate or not, but of accuracy and completeness of diagnosis. "Exploratory" operation is really an acknowledgment of failure, and it is only by regarding it in this light that advance can be made.

I am to show you, in the short time at our disposal, three stomach cases, indicating the points in each case on which I base the diagnosis. They are all cases which, in my opinion, ought to be operated on, and I hope to be able so to arrange that you will have the opportunity of witnessing the operations.

CASE 1. *Pyloric narrowing; gastric dilatation and ptosis.*—The patient, a married man, aged 34 years, was admitted to the Edinburgh Royal Infirmary on August 29th. He complained of vomiting, of pain in the abdomen and stated that he had been very bad for the preceding six weeks. On going into his history it was ascertained that he had been troubled with his stomach for 15 years—that is, since he was a youth of 19 years. The general description of his symptoms was that he had discomfort, fulness, and heaviness in the stomach, coming on usually about an hour after food. The discomfort was sometimes followed by, and relieved by, vomiting. Sometimes the vomiting was at night. The vomit when copious, he thought, consisted of what he had taken for some days. The vomit had sometimes been dark in colour and frothy. 12 years ago he was treated in the infirmary for dilated stomach and for the same condition two years later. Since that time he had been troubled off and on with his stomach. During the past year he had had comparatively little trouble until six weeks before admission, when discomfort, pain, and vomiting came on. The discomfort and vomiting became very severe and, he was confident, worse than ever before experienced. He had lost flesh and, of course, weight. Constipation had been extreme, the bowels only moving once a week if left to themselves. There was no history of melæna or of vomiting recently poured out blood. The patient had a fresh complexion but was very lean.

Such are the essential points in the history of this patient's ailment. Let me show you how the boundaries of the stomach can be determined without artificially inflating it—a method I have not found it necessary to adopt. The stomach has not been emptied for 24 hours, so it is in a favourable condition for our present purpose. If the hands are placed, as I place my hands, on this patient's body, I can use them so as to produce a succussion wave in the stomach contents, and by means of this wave I determine the position of the lower border of the viscus—it is below the level of the umbilicus at present. You may be able by this method to trace the greater curve of the stomach upwards, and to the left lower border of the thorax. Then, as regards the position of the fundus you can often find it by percussion—by determining the point at which tympanicity begins. At this particular moment this is not available in this case, as the stomach is so full, but if you reverse the succussion wave you can feel it quite easily, and find that it goes as high as the fifth rib and may even go higher. By percussion and succussion I can also determine the position of the lesser curvature in the epigastrium and I can thus outline the stomach to you on the surface of the thorax and abdomen. Try this yourselves; the method only requires a little practice and it is absolutely reliable. Much difficulty is made in abdominal diagnosis by all kinds of strange imaginings. The succussion wave here is produced in the stomach and cannot be anywhere else; and however much you may marvel at the size of the organ the outline is absolutely correct. I remove the stomach contents so that you may see their character and quantity and we can rapidly show you that they contain free hydrochloric acid and also can estimate rapidly the total acidity and the amount of free hydrochloric acid present.

Remarks.—This is an example of gastric disorder of long duration, which came on early in life, and at the comparatively early age of 34 years has made activity impossible. Although the earlier symptoms of disorder cannot be recalled with certainty there are indications that the type was hyperacidity. 12 years ago he was treated for stomach dilatation, but the name applied to the condition at that time does not really help us, for dilatation may be due to a considerable variety of causes, from malignant pyloric stricture to

more atonicity. That the dilatation cannot have been due to progressive stricture at the pylorus, or, indeed, to permanent occlusion from any cause, is indicated by the history of periods of freedom from symptoms, one of which periods includes the last 12 months up to six weeks ago.

Cases of recurring dilatation are, in my experience, most common in hyperchlorhydria. The sequence of events is usually this: an attack of hyperchlorhydria comes on from one or other of several causes, and, unless successfully treated, soon goes on to a moderate measure of dilatation; so long as the hyperacidity exists so long does the tendency to dilatation remain; and when the two co-exist the dilatation readily increases and may become very great. In this case there must, on more than one occasion, have been great dilatation, for the patient gives a history of vomiting large quantities of frothy material. During the six weeks of the present attack there has been very copious emesis, but the vomited matter has not been frothy. He must have recovered from his previous attacks of great dilatation, for if he had not he could not possibly have had the freedom from symptoms which, as we have seen, he evidently experienced. The present attack has apparently been the most severe he has had and he is most solicitous to have some radical means taken to relieve it. We are all the more ready to fall in with this, because there has been no improvement in spite of the regular emptying of his stomach by the tube, followed sometimes by lavage, and of careful dieting. His stomach retains a large proportion of the substances and fluids introduced into it and, as is usual in such cases, pours out fluid which materially adds to the volume of the gastric contents. Whether the stomach be emptied by vomiting or by the tube the contents are fluid, of the thickness of cream or gruel. They vary in colour, being drab, dark grey, or brownish. The viscus may contain as much as three pints, that amount has been vomited, and an equal amount has been withdrawn by the tube. The total acidity is high and there is abundant free hydrochloric acid. The very important question has emerged in this case, Why is the present attack so severe and intractable to medical measures taken for its relief?

There is, of course, no doubt as to the existence of a mechanical hindrance at the pylorus; without that there would not be such marked retention in the stomach of what is put into it. There is no thickening at the pylorus. The absence of such thickening and the presence of abundant free hydrochloric acid are against a diagnosis of malignancy. There has never been hæmatemesis, although the stomach contents have almost certainly owed their colour on many occasions to altered blood. There is no definite history pointing to ulcer of the stomach, such as is usually present when any considerable abrasion or a chronic ulcer is present. The symptoms are such as accompany hyperacidity, dilatation, and retention. The particular point that requires elucidation in the present attack is the amount of retention and the failure to remove the condition.

The picture I have formed is this: The patient had an unusually severe attack of his recurring hyperchlorhydria, followed by dilatation, the dilatation being greater possibly than on former occasions. When there is dilatation the whole stomach sags, and the greater the dilatation the greater the sagging tends to become from the mechanical weight of the contents dragging upon it. After a time ptosis of the stomach is added to dilatation. With ptosis the pylorus is usually more or less dragged down also. In this patient I have not been able to determine any lowering of the pylorus. An explanation of the hindrance to the outflow of the gastric contents can be found by supposing that there are old adhesions at the pylorus which lead to a definite kink at the pylorus when dilatation and ptosis combine to drag upon the organ. This would explain the periods of freedom; it would explain the difficulty when the stomach attack returns. With this picture of the case before us we go forward to operation with hope and confidence. We shall ask the surgeon not only to do a gastro-enterostomy but to look for any such adhesions, as we have referred to, which may be present. While saying this you, I hope, realise that there is no doubt as to a mechanical difficulty at the pylorus, which we believe neither to be due to recent ulcer nor to malignant disease.

Remarks after operation.—Mr. F. M. Caird did a gastro-enterostomy on this patient on Sept. 29th. The pylorus was found high up under the liver; the stomach was greatly dilated. There were no adhesions of the pylorus to surrounding parts, as we thought might be found. The difficulty at the pylorus was due to an indurated and apparently fibroid condition of the pyloric ring. This condition of the pylorus and its high position, along with the dilatation and ptosis of the stomach, were amply sufficient to explain the difficulty at the pylorus. There was no evidence of recent or of chronic ulceration. Some of the glands along the inferior aspect of the pylorus were enlarged, but Mr. Caird, while removing one for examination, did not think they suggested malignancy. The main points in the diagnosis were: (1) pyloric obstruction; (2) not due to recent ulceration; (3) not due to malignant growth; (4) but due to old changes around the pylorus. The first three points were confirmed at the operation, while as regards the fourth instead of pyloric adhesions there was an old fibroid stricture which, along with the high position of the pylorus and the ptosis, caused the difficulty.

CASE 2. *Duodenal ulcer.*—The patient, a married man, aged 28 years, was admitted to the Edinburgh Royal Infirmary on Sept. 21st, 1906. He complained of pain in the epigastrium, all round that part of the right side corresponding to the hepatic region, and in the back. The symptoms complained of had lasted for four weeks. On inquiring into the history, it was ascertained that he had suffered off and on for five years from similar attacks to the present. The attacks lasted for from one to four weeks. He had had three attacks since January last. The attack preceding the present one occurred in July last and lasted for four weeks. After that he was quite well until the present attack began. The pain during the attacks had become worse. When questioned about the pain he was quite definite as to its coming on from one hour to an hour and a half after meals, that it got gradually worse till he took food again, when he obtained relief for about an hour, when it would begin again. The pain was worse after solid food than after liquids. It was now burning in character, and was most severe at points midway between the xiphoid and the umbilicus, and in the angle between the last rib and the spine, but also in the hepatic region between these points. After food he had a sense of weight in the epigastrium. The bowels had been very constipated for five years, and he had had to take laxative medicines all that time. He had vomited a few times—the last occasion was three weeks previous to admission and occurred about an hour after food, the pain being relieved by it. The appetite was poor and he was not inclined to take food. The attack which he had in July left him very weak and thin, and between that and the present attack he did not put on much flesh. He had become much thinner since the present attack began; he had been off work for three weeks and had been in bed during most of the time. He was questioned more directly about vomiting and as to the character of his motions, and the following facts were obtained; and although it was impressed upon him that he must be quite certain of their accuracy he steadfastly adhered to them. He had not vomited blood or dark material during the present attack, but ten days previously his motions were black like tar, although he was taking no medicine save seidlitz powders. He vomited coffee-ground material two months ago and he had vomited similar-looking stuff before. The motions were black a month ago and also in July; in fact, he seemed confident that his motions were often, if not always, black during the attacks. On examination of the abdomen there was a degree of tenderness all over it, with a degree of rigidity of its walls; it was more tender at the spots mentioned above as points to which pain was referred and over the hepatic region. The stomach was not enlarged. A test breakfast showed abundant free hydrochloric acid.

Remarks.—The special points to be noted in this case are that the gastric attacks had lasted for five years and had recently become worse and more frequent. The history of the gastric symptoms points to hyperchlorhydria dyspepsia; there were periods of freedom from trouble, followed by periods during which pain came on from an hour to an hour and a half after food; was relieved by taking food for an hour or longer, but again returned. The patient had had three attacks since January. He had had an attack in July which lasted four weeks; then he had had a period of comfort until the present attack began four weeks before admission. The attacks were sufficiently severe to lay him up and loss of work had become a serious matter with him. He was very confident in asserting that he had frequently had tar-like motions and that he had on some occasions vomited material like coffee-grounds. There had been no melæna and no hæmatemesis since admission. There was no difficulty at the pylorus leading to the retention of gastric

contents. There was no dilatation or displacement of the stomach. The stomach contents withdrawn by the tube showed abundant free hydrochloric acid. The patient was so very positive about the tar-like motions that his statement must, I consider, be accepted as a clinical fact. The frequency of the attacks, their intractability to weeks of treatment, however imperfect it may have been, and the position and character of the pain, all tend to open one's mind to the acceptance of the patient's assurance regarding the character of his motions and perhaps of his vomit also. If the facts have been correctly obtained, if our evidence is reliable, they point to duodenal ulcer. And if we are to have the courage of our diagnosis, this is also a case for gastro-enterostomy. I am one of those who believe that when you make a diagnosis of duodenal ulcer it is wise to advise operation, especially if, as in this case, there has been recurrence of symptoms. The unsatisfactory point regarding operation is that the ulcer will not be seen, even at the operation, unless it be on the anterior wall; and, in this case, it is probably on the posterior wall. So the surgeon, even though he may accept the diagnosis, does nothing to establish its accuracy. The operation of gastro-entero-stomy was performed by Mr. Caird on Sept. 29th. There was no ulceration of the stomach found and no obstruction at the pylorus.

CASE 3. *Malignant disease at the pyloric end of the stomach.*—The patient, a married woman, aged 43 years, was admitted to the Edinburgh Royal Infirmary on August 20th, 1906, complaining of uneasiness in the stomach and vomiting, the symptoms having lasted since June last. The history of her present illness dated from early in that month, when she began to suffer from sensations of uneasiness shortly after taking food, the food often regurgitating, but there was no vomiting. The sensations came on, as a rule, from half an hour to an hour after each meal. She had also been constipated. Before June no history of any kind of gastric or digestive disorder could be obtained by the most direct questioning. She had become gradually worse, treatment giving her no relief. The eructations had increased; vomiting had begun and had become more frequent. As she was rapidly becoming weaker and losing flesh she came to the infirmary. She had noticed some time ago a lump in the upper part of the abdomen. Examination of the alimentary tract showed her gums to be edentulous, the result of complete extraction, and the tongue was flabby with a slight fur. The appetite was fairly good. After meals there was a feeling of tension in the abdomen, and she was conscious of movements and rumblings in its upper part. She felt drowsy and heavy after food. She vomited frequently after admission, the vomit consisting of the food she had taken but little altered, and when she was allowed bread the vomit contained great pieces of undigested bread crust. Ultimately we minced all her food, but that only led to a temporary diminution in the frequency with which she vomited. The vomit never contained free hydrochloric acid, nor did the gastric contents withdrawn by the tube after a meal. There was a pear-shaped lump to the right of the epigastrium, moveable, and not seemingly adherent to deeper structures. The smaller end of the lump was to the right. The stomach was considerably dilated, its inferior border reaching to the umbilicus and the fundus to the fifth rib.

Remarks.—This case differs from the two preceding cases in this, that there is what is commonly called a tumour in the upper part of the abdomen. It is a somewhat pear-shaped swelling, running from above downwards and to the right, the smaller end being its right inferior end. The mass is usually hard, easily felt, and to a small extent moveable. The stomach is dilated, its boundaries being easy to define by succussion and percussion in the manner which I showed you in Case 1, which I repeat here, and which some of you can come forward and confirm. The succussion wave can be felt right up to this mass. A point of clinical interest is that this mass alters in character; it becomes so soft that it requires the expert hand to be sure of its existence. Further, waves of stomach contraction are often to be seen passing across the upper part of the abdomen and ending in the mass. The mass is the thickened wall of the pyloric end of the stomach—its position, shape, altering thickness, and its relation to the greater and lesser curves of the stomach all confirm this. There have been no hæmatemesis, no coffee-ground vomit, and no melæna. There was an entire absence of gastric symptoms until June last, but once they began there has been no material remission in them; discomfort and vomiting, especially vomiting, have indeed become pronounced. The vomit and the stomach contents removed by the tube have never shown a trace of free hydrochloric acid. That there is pyloric obstruction is shown by the retention of food in the stomach. That the stomach is not larger than it is and that there is no marked fermentation of its contents are due to the ease and regularity with which the stomach has hitherto emptied itself by vomiting when discomfort became considerable. The diagnostic points in the case are the "tumour," which varies in thickness and hardness and might be said at times to disappear, gastric peristalsis, and vomiting. These three points indicate pyloric obstruction, with marked spasmodic contraction of the pylorus. The two conditions which give rise to pyloric spasm, as marked as it is in this case, and to visible peristalsis, are simple ulcer and malignant growth at or near the pylorus. There is no history of simple ulcer here nor are the symptoms those of simple ulcer near the pylorus and therefore we conclude that there is a malignant growth here. The onset, the course, the present condition, and the absence of free hydrochloric acid all support this. A great part of the difficulty commonly experienced in making differential diagnosis in gastric and abdominal disease is really due to a want of definite knowledge as to the lesions which occur in different viscera, and as to the symptoms which are practically inseparable from each. In this case there is no doubt that the "tumour" is the pyloric end of the stomach. I once, after a hurried examination, thought a "tumour" of this nature a displaced kidney, but I speedily rectified my error. The pylorus is the site of the "tumour," and if we consider next its nature we conclude that much of it must be due to muscular contraction of the pyloric wall, for it goes and comes to a considerable extent. This is not uncommon. As to the explanation of the muscular spasm, it is, in my experience, due to irritation caused either by a chronic open ulcer near the pylorus or to an infiltrating cancer in the same region. We exclude simple ulcer, and when this is done there is no escape from the alternative. If we have gone so far it would be sheer affectation were I from this point to plead ignorance. If this is malignant there is only one method of treatment of any avail and that is removal. If removal were not possible I would not advise operation, but owing to the mobility of the "tumour" we hope it may be found removeable. What particular operation is to be performed belongs entirely to the surgeon. This patient was also operated on by Mr Caird on Sept. 29th, when a pylorectomy was done, followed by a gastro-enterostomy. The pyloric end of the stomach showed much thickening and contraction of the pyloric muscle, while near the pyloric opening there was one of those large circular growths, with a raised fungus-like margin and an atrophied-looking centre, which we commonly regard as malignant. There was no affection either of the lymph glands or of the liver so far as could be seen.

Sections of the removed pylorus made by Mr. Henry Wade, one of the assistant pathologists, showed the condition to be an infiltrating cancer.

These three patients made uninterrupted and rapid recoveries and were able to return to their homes in the course of from three to four weeks.

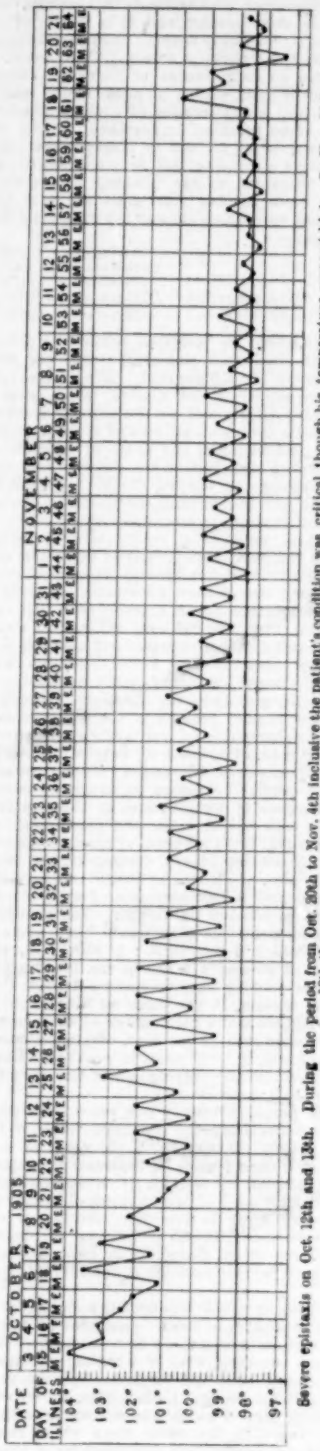
Edinburgh.

A CASE OF PARATYPHOID FEVER IN MAURITIUS.

BY D. B. SPENCER, L.F.P.S. GLASG., L.S.A.,
LIEUTENANT-COLONEL, I.M.S.;
AND
H. E. STADDON, M.R.C.S. ENG., L.R.C.P. LOND.,
CAPTAIN, R.A.M.C.

THE patient, a European, aged 30 years, an assistant surveyor on the Royal Engineers' civil staff at Mauritius, came under our joint care about the end of September, 1905.

History.—The patient left Dublin on August 2nd, 1905, being then in perfect health, and arrived at Mauritius on Sept. 22nd, having had a sea voyage of 52 days. *En route* he disembarked at several places—namely, Southampton, Teneriffe, Cape Town, Port Elizabeth, Durban, and Delagoa Bay, staying only for a few hours on shore at the first four places but for five days at Durban and for a full week at Delagoa Bay. He was perfectly well until he arrived at


DATE
OCTOBER 1905
NOVEMBER
DAY OF ILLNESS
M E M E M E

Yeo's quinine and chlorine mixture was given and was well borne. Tepid sponging of the body was of great use. The symptoms of gastro-hepatic irritation were relieved by a few doses of bismuth and soda. Epistaxis was controlled by ergot and calcium chloride. The diet was almost entirely of milk and barley-water in equal parts.

Bacteriological examination of the blood.—Through the kindness of Dr. F. A. Rouget, superintendent of the Civil Hospital at Port Louis, Mauritius, the following report was obtained: "We have tested the samples of blood with fresh cultures of the bacillus typhosus and the bacillus coli communis and in both cases the reaction was negative. The observations were made with cultures 18 hours old and in each case a 1 in 50 dilution was used according to the process generally adopted. In presence of the negative results obtained it was not found necessary to continue the experiments with 1 in 200 and 1 in 500 dilutions. We can give you no further information, as we do not possess cultures of the micrococcus Melitensis or of the Gaertner group."

General remarks.—Although clinically the case was one very similar to a case of true typhoid fever there were some important differences—namely, the sporadic nature of the case, the absence of a marked typhoid state, and the absence of any abdominal symptoms pathognomonic of true typhoid fever, such as would be expected in a case lasting over nine weeks. Among other symptoms, perhaps less important but still valuable aids to a diagnosis of true typhoid fever, we may mention the rose-coloured eruption in successive crops, enlargement of the spleen, and deafness which were all absent in this case. Taking these negative symptoms in conjunction with a negative Widal test we venture to think that this was a case of paratyphoid fever, while we regret our inability to give some positive evidence as to the causation of the disease owing to the limited means at our disposal for a detailed bacteriological examination of the blood.

ON WHITE-WINE WHEY IN INFANT FEEDING.

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AND

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AMONG the many foods which are occasionally of value in infant-feeding sherry whey, or "white-wine whey" as it is sometimes called, must hold a high place, not because it has any particularly large nutritive value but because it combines certain properties which are of great importance under certain conditions. Like the ordinary whey prepared with rennet the whey made with sherry is easily digestible owing to the removal of the milk-curd in the process of preparation; and, like the rennet whey, it has also lost a large proportion of the milk-fat owing to its entanglement in the curd which was strained off. The curd, however, from sherry whey is flocculent and thus unlike the curd *en bloc* produced by rennet; the fat also for this reason is less completely entangled and the proportion remaining in the sherry whey is as high as that in a rennet whey, in which special precaution has been taken to liberate the fat so far as possible by breaking up the curd before straining. Our own analysis of sherry whey, prepared as will be described below, showed proteid 0·45 per cent., consisting almost entirely of the easily digested lactalbumin, fat 0·95 per cent., and there is also present (but not estimated by us) sugar about 5 per cent. The sherry whey therefore is, like rennet whey, a food low in nutritive value, but such as might be expected to agree well where there is difficulty in digesting the stronger preparations of milk. But sherry whey has other properties which do not belong to the ordinary rennet whey. The sherry which is used in its preparation gives to the white-wine whey its peculiar flavour which is said to be due to the presence of essential oils or volatile ethers in the wine, constituents which probably contribute to the carminative effect which is one of the virtues of this food.

Sherry whey has also a markedly acid reaction, and it would seem from the good results of buttermilk and of other preparations in which lactic acid fermentation has been artificially induced in milk that acidity of the food, so far from being harmful, is sometimes beneficial in infant feeding. Sherry owes its acidity chiefly to tartaric and acetic acid, and its curdling action upon milk is due to this acidity. Sherries, however, vary in their acidity, and it is matter of common knowledge that a "drinking sherry" curdles milk much less readily than does a "cooking sherry." We found, indeed, that from three to four ounces of drinking sherry were required to curdle half a pint of milk, which was readily curdled by two and a half ounces of cooking sherry. This is a point of some practical importance, for, as we shall show, the proportion of alcohol in sherry whey made with the cooking sherry is quite as high as is convenient, and it is not desirable, therefore, to use drinking sherry, which not only contains more alcohol but must be used in larger quantity. Actual estimation showed the difference in acidity to be as follows:—

	Fixed acid (estimated as tartaric).	Volatile acid (estimated as acetic).
Drinking sherry (2*s.* 1*d.* per bottle) ...	0·348 per cent.	... 0·027 per cent.
Cooking sherry (1*s.* per bottle)	0·352 ,,	... 0·021 ,,

Sherry whey, prepared as described below with this cooking sherry, showed fixed acid (tartaric) 0·067 per cent. and volatile acid (acetic) 0·015 per cent. More important, however, than the acidity is the alcohol, which gives to this food its stimulant effect, and we have made some observations to determine the exact amount of alcohol present. It might be conjectured from the mode of preparation that part of the alcohol contained in the sherry would be lost by volatilisation during the heating of the food, but as to the amount so lost and the amount remaining in the whey we could find no information in any text-book.

The method of preparation which after experiment we fixed upon as the most satisfactory is this: ten ounces of milk were heated until just boiling, then two and a half ounces of cooking sherry were added and heat was applied again until the mixture began actually to "boil up," when it was removed from the fire and allowed to stand three minutes; the curd was then strained off through a twofold layer of butter muslin. The alcohol in this whey was estimated by the usual method of distillation and determination of the specific gravity in the distillate. Estimation was also made of the alcohol present in the sherry used in each case. Drinking sherry (2*s.* 1*d.* per bottle) was found to contain 16·46 per cent. of alcohol by weight. Whey prepared with this (three ounces of sherry were necessary as no smaller amount would curdle) contained as nearly as possible 2·6 per cent. of alcohol by weight; and as the dilution of the sherry by the milk would make the percentage 3·33 per cent., it is seen that 0·73 per cent. of alcohol was lost in the preparation. A cooking sherry, costing 1*s.* per bottle, contained 14 per cent. of alcohol by weight; whey made therewith (using two and a half ounces as described) contained 2·28 per cent. of alcohol by weight. The dilution of the sherry by the milk in this case would have made the proportion of alcohol 2·8 per cent.; in this case, therefore, 0·52 per cent. of alcohol was lost in the preparation of the whey. Another cooking sherry, costing 1*s.* 3*d.* per bottle, was found to contain 14 per cent. of alcohol by weight; whey made with two and a half ounces of this sherry to half a pint of milk showed 2·26 per cent. of alcohol by weight in one experiment and 2·3 per cent. in another. Here, again, the loss of alcohol in the preparation of the whey amounted approximately to 0·5 per cent.

For clinical purposes brandy is a convenient standard of comparison in considering the alcoholic value of this food. An average brandy contains 42·5 per cent. of alcohol by weight, so that if sherry whey be reckoned as containing 2·3 per cent. of alcohol by weight, it is approximately one-eighteenth (strictly $\frac{1}{18\cdot5}$) of the strength of brandy; and one ounce of sherry whey is therefore, so far as alcohol is concerned, equivalent to 25·6 minims of brandy. In the use of sherry whey, therefore, it must be remembered that it is a food which contains a considerable quantity of alcohol.

The conditions in which this food is suitable for an infant are those in which only small quantities of food can be tolerated and where a stimulant is necessary. Where there has been much vomiting, with or without diarrhœa, and the infant has already been fed for some hours with albumen water or veal broth in small quantities, sherry whey often makes a useful step towards the return to milk feeding; sometimes, indeed, in the acute stage where there is still much vomiting a drachm or a few drachms of this food will be retained in the stomach when other foods have been tried

in vain. In cases where owing to difficulty of milk digestion there has been chronic vomiting and the infant has become feeble and exhausted, feeding for two or three days on small feeds of sherry whey alone, and then on alternate feeds of sherry whey and fully peptonised milk, is sometimes of great benefit. In the common cases where food after food has been tried and the infant has become emaciated and screams with flatulence and colic after meals sherry whey sometimes has a striking effect in reducing the flatulence and colic, and so relieving the child's distress; in such cases it may be given at alternate feeds for several days and then two or three times a day. We have seen excellent results from it also in the case of premature or very feeble newly born infants. The quantity of sherry whey which can be given is limited chiefly by the proportion of alcohol which it contains. It is not intended for prolonged use but we have often used it as the only food for a week or ten days and when it is given at alternate feeds only it can be continued if necessary for two or three weeks. To an infant six weeks old a tablespoonful can be given every half hour or every three-quarters of an hour and the amount and interval gradually increased until two ounces are taken every two hours. The quantity, however, as a rule is determined less by the age of the infant than by the general condition and the degree of tolerance shown by the stomach. At any period of infancy it is seldom desirable to exceed from two to two and a half ounces of sherry whey at a feed; but in exceptional cases we have given as much as three ounces every three hours to infants about six months old and even four ounces every three hours to an infant 12 months old for two or three days with great benefit. As a general rule it should certainly be laid down that sherry whey, like any other fluid which contains alcohol, should never be given to infants in larger quantity or continued for a longer period than the exigencies of the case require.

SCLERODERMIA AND MYOSITIS.[1]

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SOME three years ago I contributed to the *Bristol Medico-Chirurgical Journal*[2] an account of a case of muscular atrophy with sclerodermia, in which the evidence that the changes in the muscle were primary—either of the nature of a progressive atrophy or a dystrophy—was irresistible. Since publishing that case four other patients have come under my observation at the Bristol Royal Infirmary who seem to provide material for a further study of these conditions and to throw fresh light on their nature. Of recent years, too, other cases have been recorded which make it evident that the associated affections met with in sclerodermia are no longer the isolated conundrums which they formerly seemed. From a careful clinical investigation of the cases under my own care and from the published records of other observers I think that there is beginning to be collected a considerable amount of evidence that the muscular changes of sclerodermia are (together with the skin changes themselves) merely a local manifestation of a general disease, an infective inflammatory affection resembling in many points the rheumatic infection.

Just as in acute rheumatism we are familiar with the usual form of a general shifting synovitis, varied at times by an attack on serous and especially cardiac membranes, manifesting itself sometimes by localised tendinous infiltrations of a nodular type, at others by subcutaneous erythematous inflammation, or again appearing in cerebral form as chorea, so there is evidence of an analogous polymorphism in the disease which for convenience may be termed generally sclerodermia. There is little need to describe the clinical appearances of sclerodermia, the localised form with its patch of glossy, hard, ivory skin, or the generalised form with more or less widespread "hidebound" appearance, thick, immobile, parchment integument, with the natural folds of the skin obliterated, and expression lost in the face giving rise to the "masque sclérodermique."

Of the pathology much has been written and little explained. Briefly, the cellular elements of the skin disappear, together with the elastic and fatty tissue, the vessels become narrowed or obliterated, and the collagenous bundles hypertrophy. Ultimately the whole affected area becomes atrophied into a thin parchment-like cutaneous plate without a papillary layer or subcutaneous tissue but covered with atrophied epidermis.[3] Nerve lesions have been reported but the evidence of any constant nervous origin for this affection is still lacking. In such cases as have been examined after death the muscle changes have been variously reported to have been either of an inflammatory nature, "myositis diffusa," or, in what may be interpreted to be a later stage, of the nature of a fibrous degeneration or infiltration, "myositis fibrosa." It must be confessed that the necropsies on record throw little or no light so far on the etiology of the disease. We are thrown back again on the living subject, to an investigation of the clinical phenomena, to an examination of analogous diseases and allied conditions, and perhaps to a research into the manner of discharging the vital functions. Bloch and Retmann[4] have recently published their researches upon metabolism in sclerodermia and state that there is no characteristic variation in the Nitrogen-exchange. By correlation of these one with another and by comparison or contrast with the processes observed in other diseases it may be possible to arrive at some definite conclusion as to what sclerodermia is and how it arises. Although the four cases described may be quite wrongly associated, although the suggested points of similarity may be quite wrongly interpreted, still there remain some features in common which bespeak the same pathological processes underlying them.

CASE 1.—A healthy girl, aged 13 years, first came under the care of Dr. H. Waldo 18 months ago on account of a patch of painful, thickened, stiff, glossy skin on the right shoulder and arm, a narrow band extending from the posterior aspect of the acromion over the deltoid and down the outer and posterior part of the arm to a point a few inches below the elbow. It did not at first occupy so large an area as this but spread rapidly in the first week or so, then became stationary, and finally began to disappear, especially behind the shoulder where now the skin is practically normal; the white waxy appearance showed itself almost at once. Three months ago she developed a similar smaller patch about two inches long and one inch wide, oval in shape, on the left thigh just over the apex of Scarpa's triangle, and now she is developing some indefinite thickening of the skin on the inside of the left knee just above the condyle of the femur. Also within a month or two of first attending the right hand was noticed to be smaller than the left, while the middle finger, although freely moveable as regards the joint, was incapable of being completely extended unless the wrist was flexed. The muscles of the forearm were not noticeably wasted nor lacking in power; flexion and extension of the fingers were perfectly normal up to a point where the tendon of the flexor sublimis digitorum to the middle finger seemed to be stretched to its utmost and the finger could be no further extended, the flexion only being apparent at the metacarpo-phalangeal joint. This is the condition at present: there are no involvement of tendon-sheath or fascia as in Dupuytren's contraction and no true primary muscular atrophy, all electrical reactions are normal, and it is neither a spastic contraction of the flexor muscle nor due to defective power in the extensor. This seems to be an essential shortening of muscle and tendon. The girl herself was not aware of any abnormality in this hand. There was no acute onset, no rheumatism, no pain, no tenderness, anæsthesia, or any symptom to attract the patient's attention.

CASE 2.—The patient was a single woman, aged 40 years, in domestic service. She showed changes in the skin of her left arm and hand which dated either from birth or very early infancy. She had true sclerodactylia, the thumb and first finger of the left hand were deformed, the skin was thickened, hard, and cold but not white, and even the bones were irregularly thickened as if by periostitis. The skin was chiefly involved up the radial border of the forearm to a point just above the elbow so that on straightening the arm a thick fold of infiltrated skin was made tense and prominent, yet there was no implication of muscle or tendon in this part; but on the palmar aspect of the first metacarpal, where the skin was scarcely at all affected, the

[1] A paper read at a meeting of the Bristol Medico-Chirurgical Society on Nov. 14th, 1906.

[2] Bristol Medico-Chirurgical Journal, December, 1903.

[3] Fibromatosis or new formation of collagen fibres takes place not only in association with granulating wounds but also in a large number of affections of the corium. After recurrent attacks of lymphangitis and erysipelas where a persistent œdema has occurred the œdema causes a rarefaction of the fibrous stroma, which is followed by a fibromatous process. In sclerodermia the hardness is due to a hypertrophy of the fibrous tissue. Pathology of Skin Disease, Macleod, p. 185.

[4] Bloch and Retmann: Wiener Klinische Wochenschrift, vol. xix., p. 630.

tendon of the flexor sublimis showed the characteristic contracture; the skin, fascia, and tendon sheath were all free from induration, yet the tendon was distinctly shortened, and on straightening the finger with the wrist and elbow extended it stood out as a thin cord tightly stretched. Quite recently this patient had severe pain and tenderness over the roots of the brachial plexus, but this had subsided without further change in skin or muscle.

CASE 3.—The patient was an unmarried woman, aged 22 years, the subject of a large goitre without symptoms of Graves's disease. Two years ago she was taken ill with an attack of rheumatism; not quite characteristic rheumatic fever, for there seemed to have been no effusion into the joints, only pain, severe pain, all over and inability to move the limbs. Recovering from this all her joints were found to be stiff and apparently enlarged, looking at first sight like osteo- or rheumatoid arthritis. But on examining the joints they were found to be limited in their movements, not by essential changes in the joints themselves, but by a general shortening of flexor tendons, of such a nature that if an attempt was made to straighten the various joints of the fingers, the wrist, and the elbow simultaneously the tendons became tense and complete extension was prevented; while flexion of the elbow immediately allowed the wrist to be extended. Further, the apparent expansion of the articular ends of the phalanges was shown by a radiogram not to depend upon bony changes but upon wasting of the soft parts. The muscles and tendons of the upper extremities alone showed these alterations and the electrical reactions were everywhere normal. In this patient the tendon sheaths and fascia were free and there was no sign of any skin affection. Although there was a goitre present without symptoms of Graves's disease, yet very small doses of thyroid extract or thyroidectin produced immediately tachycardia, nervousness, and tremor.

CASE 4.—The patient was a girl, aged 20 years, who previously was in good health and had suffered from no skin complaints. Two months ago she scratched her right arm. From this a general inflammation followed, apparently an ordinary attack of erysipelas, for which she was admitted to the Royal Infirmary. Now that the erysipelas had subsided there was over the insertion of the deltoid an induration of the skin about 6 inches long and 3 inches wide, roughly oblong in shape, slightly swollen, dusky red in colour but mottled with white streaks and stellate veins, surrounded by the "lilac ring." The edges were well defined but beyond the margin subcutaneous "islets" of infiltration could be felt which did not involve the epidermis. The skin did not feel adherent to the subjacent tissues, nor were any muscles affected. There was no pain and sensation was unaltered. The case seems to be one of localised sclerodermia or morphœa following directly upon erysipelas or starting from an infected wound. (At the present time this patient is suffering from an attack of articular rheumatism with acute endocarditis.)

The case which I reported three years ago is worth calling to mind in this connexion; to quote from the description then given, "The first symptom complained of was a weakness in the limbs; at first the left hand felt weak and numb, especially towards night ..... later the right hand followed suit and aching pains were constantly present in the forearms. Soon after, the legs began to ache on walking short distances so much that after a five mile round he was obliged to lie down and rest. ..... The tips of his fingers started tingling and were so sensitive that he gave up shoemaking, after vainly trying to relieve the tenderness by wearing woollen gloves." It was some months before any changes in the skin were noticed. Then the sclerodermia became gradually of the generalised type; there was atrophy of the muscles and marked contraction of some of them, notably the biceps, "which could be felt as a tense cord, no thicker than the little finger, lying under normal elastic skin which could easily be raised from the underlying muscle"; the right arm was flexed at an angle of nearly 90° at the elbow, while a lesser degree of wasting and contraction was shown in the left arm. Many other muscles had atrophied but none contracted like the biceps.

To Thibierge is due the credit of first seriously attracting attention to the changes in muscles associated with sclerodermia[5] and more recently in *La Pratique Dermatologique*[6] he quotes Leredde and Thomas to show that the only well-established point in the pathogeny of the disease is that a sclerosis of the skin, possibly inflammatory in origin, is always present. A brief epitome of cases collected by Thibierge[7] is appended.

1. Girl, aged 17. Diffuse sclérodermia en plaques. Masque sclérodermique. Triceps wasted, movements free but feeble; arm can be flexed but not extended fully owing to contraction of biceps. General loss of power in hands and fingers, not depending on paralysis. Sterno-mastoids contracted. Peri-articular (scapulo-humeral) fibrous adhesions. R.D. in some muscles.

2. Woman, aged 23 (Westphal I.). Diffuse sclerodermia. Masque sclérodermique. Onset unnoticed. Left elbow cannot be extended owing to contraction of biceps which is as hard as wood. Hands and fingers half flexed in position of repose, and although the joints are relatively more freely moveable than usual flexion is very limited. No pain, some crepitation round joints, articular surfaces feel smooth. Leg muscles very hard, no true contraction, movements of knees limited. No paralysis.

Necropsy.—No joint changes. Fibrous peri-myositis, no interstitial myositis.

3. Woman, age 36 (Westphal II.). Diffuse sclerodermia. Masque sclérodermique. Many muscles atrophied although skin is free. Contraction in biceps similar to foregoing.

4. Woman, aged 53 (Goldschmidt). Sclerodactylia. Masque sclérodermique. Symmetrical gangrene. Skin of neck free. Muscles hard and leaden ("soudés") in the forearm; on movement dry leather creaking felt.

Necropsy.—Peri-muscular fascia very dense, inter-muscular planes of fascia show increase of fibrous tissue. Some atrophy of the muscle fibres.

5. Man, age 19 (Schultz). A fatal case of Addison's disease with sclerodermia and interstitial myositis.

Of other published cases I have been able to collect the following:—

6. Hutchinson.[8] A case of sclerodermia with contraction of sterno-mastoid not due to induration of the skin.

7. Grasset.[9] Sclerodermia with fibro-tendinous contractions due to a muscle atrophy, not myelopathic nor neuritic, but a simple "myopathy."

8. Elliott.[10] Amyotrophic changes preceding sclerodermia by five years.

9. Pelizaeus.[11] Sclerodermia with independent sclerosis of muscles.

10. Rosenfeld.[12] A similar case.

11. Haushalter and Spillman.[13] Girl, aged six. Diffuse sclerodermia en plaques accompanied by marked atrophy of muscles and arrested growth in one leg.

12. Herringham.[14] A man with sclerodermia and a condition of hands resembling rheumatoid arthritis but depending actually on muscular contractions, not joint changes; all the limbs contracted.

13. Fowle.[15] Diffuse sclerodermia with widespread tendon con-

14. Batten[16] in a very complete description of myositis fibrosa quotes a case of Lindner in which typical myositis fibrosa was associated with sclerosis of the skin.

15. Petjes and Clejat.[17] A fatal case of five years' duration in a woman who developed the most extensive sclerodermia and passed through a generalised acute myositis to a stage of fibrous contractions. Sclerodermia with myositis diffusa (necropsy).

Now the dependence of sclerodermia and the allied muscular atrophies upon nerve lesions is at best only a matter of conjecture; in the majority of necropsies no changes in the nervous system have been found; in the few instances on record where these changes did exist they were of such inconstant, even contradictory, types that no causal relationship could be established between nervous system, skin, and muscle. But the evidence of primary inflammation in the muscles of either an acute or chronic variety, ending as a rule in a fibrosis, is amply corroborated both by clinical and pathological facts. Beyond this it is difficult to penetrate clearly, the indications seem to point to an acute or chronic infection which affects mainly muscle and subcutaneous tissue, resulting in a sclerosis of the skin and the muscle, an infection to which perhaps persons suffering from other general diseases are peculiarly liable and especially the subjects of Graves's disease, myxœdema, Raynaud's disease, Addison's disease, and nerve degenerations. It seems probable that myositis of a localised nature going on to sclerosis and contraction of a single muscle or isolated groups is commoner than generally supposed; and that the disease, of which this is only one manifestation, may run an acute, subacute, or chronic course, and on occasions may involve the skin, giving rise to one type of sclerodermia. A reference to the original monograph of Addison upon

[5] Thibierge: Revue de Médecine, 1890, vol. x., p. 291.

[6] Thibierge: La Pratique Dermatologique, Tome iv. Article: Sclerodermia. 1906.

[7] Revue de Médecine, 1890, vol. x., p. 291.

[8] Hutchinson: Archives of Surgery, 1891-92, vol. iii., p. 238.

[9] Grasset: Nouvelle Iconographie de la Salpêtrière, 1896, No. 5.

[10] Elliott: Journal of Cutaneous Diseases, May, 1897, p. 199.

[11] Pelizaeus: ref. Archives de Neurologie, 1897, No. 3, p. 139.

[12] Rosenfeld: Centralblatt für Neurologie, 1902, p. 976.

[13] Haushalter and Spillman: Nouvelle Iconographie de la Salpêtrière, 1899, xii., 200 (Obs. iii.).

[14] Herringham: Transactions of the Clinical Society, 1900, vol. xxxiii.

[15] Fowle: Boston Medical and Surgical Journal, 1904, vol. cli., p. 630. tractions.

[16] Batten: Transactions of the Clinical Society, 1904, vol. xxxvii., p. 12.

[17] Petjes and Clejat: Annales de Dermatologie et de Syphiligraphie, June, 1906.

"Keloid of Alibert and True Keloid"[10] makes it obvious that the disease as seen and described by Addison under the latter title was not, as has always been represented, solely or even primarily a cutaneous disease, for he recognised and mentioned in two of his cases a general sclerosis of muscle, tendon, and fascia, together with—and as part of the same "morbid process very nearly allied to inflammation, probably of a strumous nature"—true keloid of the skin which we now call sclerodermia.

Clifton, Bristol.

RUPTURES OF THE URETHRA, INTRAPELVIC AND PERINEAL.

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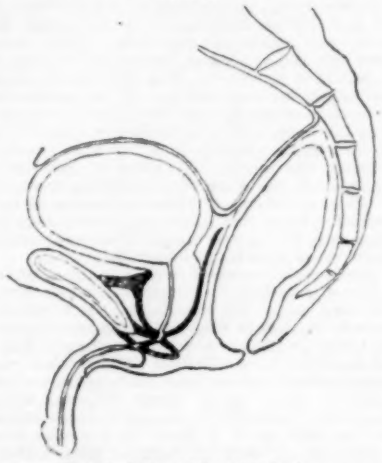
IN an article published in 1894[1] I pointed out that ruptures of the urethra associated with fracture of the pelvis presented certain anatomical and clinical peculiarities not at that time generally recognised, although they are of great importance in treatment. In text-books of that date the common injury of the urethra caused by direct violence, such as kicks in the perineum or falling astride, was described as a partial or complete rupture of the membranous urethra, or of the bulbous portion immediately in front of the triangular ligament; and the rupture was attributed to violent compression of the urethra between the pubic arch and the object causing the blow. By the same authorities injury of the urethra in fractured pelvis was attributed to laceration by the sharp fragments of the broken pubic arch. In both cases the same part of the urethra was said to be affected—namely, the membranous—and in both it was said to be accompanied by tearing of the anterior layer of the triangular ligament. Then followed the familiar description of the course taken by the extravasated urine; how it distended first the anterior part of the perineum, then the scrotum, and afterwards the cellular tissue of the groins and lower abdomen, as a natural result of the disposition of Colles's fascia.

My own observations and dissections published in 1894 convinced me that this classical account of the anatomy and clinical sequels of ruptured urethra contained much error. The description of the text-books was quite correct as far as it applied to direct injuries of the perineum by falls and kicks. In the slighter cases of this sort the injuries consist of more or less bruising of the bulbous portion of the urethra, sometimes with internal mucous lacerations; in the more severe cases the membranous urethra is torn completely through *immediately in front of the triangular ligament*. In cases of this sort extravasation of urine, if it is allowed to occur, naturally follows the route determined by the attachment of Colles's fascia, just as it does in an ordinary case of neglected stricture in the bulbous portion. When, on the contrary, rupture of the urethra occurs in a case of fracture or violent compression of the whole pelvis the position of the rupture and the course of extravasation are quite different. In every case of pelvic injury which I have examined and in all published cases known to me which are accurately described the urethra when injured has been torn on the upper or posterior face of the triangular ligament—i.e., where the membranous urethra enters the apex of the prostate. In other words, the rupture in these cases is *not perineal, but intra-pelvic*. The extravasation of urine when it occurs is also intra-pelvic and urine and blood collect in the prevesical space without any distension of the perineum, though the skin of the latter may be ecchymosed. The two different positions in which the membranous urethra is ruptured by direct and indirect violence respectively will be easily understood by reference to Figs. 1 and 2.

The exact mode in which what we may call the intra-pelvic rupture of the urethra is brought about is not entirely clear. In the majority of cases of fractured pelvis which have come under my observation the fracture has been caused by lateral compression of the pelvis; for example, a crush between two tubs in a coal mine or between a railway-truck and a platform. The other common causes of fractured pelvis are falling from a great height and being crushed between the ground and some heavy falling mass, such as rock or masonry. In such accidents the blow or compression is as likely to be antero-posterior as lateral, but cases of the latter are obviously less likely to be immediately fatal, and this may account for their greater frequency in surgical practice.

Now, the effect of a sudden violent lateral compression of the pelvis must be to shorten its transverse and to lengthen its antero-posterior diameter until the bony ring finally

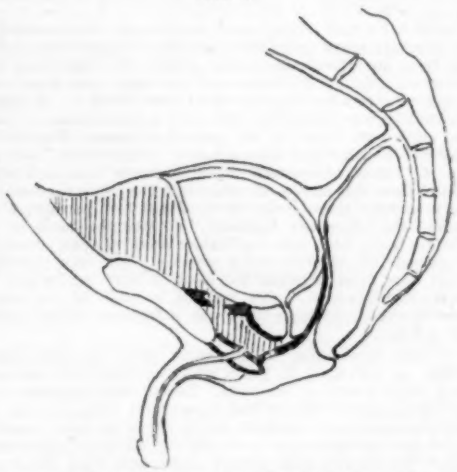
FIG. 1.



Normal relations of the pelvic fascia.

gives way at its weakest parts. The lengthening of the antero-posterior diameter necessarily puts a violent stretch on all the soft parts in the median sagittal plane and tends to detach them from the back of the pubis. As the triangular ligament is firmly attached to the pubic arch it practically forms part of the bony pelvis and moves forward with it. The urethra, therefore, gives way just where it emerges from the triangular ligament on its upper or pelvic side and enters

FIG. 2.



Rupture of the urethra above the triangular ligament. The shaded area shows the position of the extravasation.

the apex of the prostate. In many cases the pubo-prostatic ligaments are also torn and then the bladder and prostate fall back with the rectum into the hollow of the sacrum, leaving a great space behind the pubis shut off from the perineum by the layer of recto-vesical fascia which forms the posterior layer of the sheath of the prostate. (See Fig. 2.) Into this space a great quantity of blood and urine

[10] Addison: Opera Omn.: New Sydenham Society, 1868, pp. 177 et seq.

[1] Practitioner, vol. xliii., No. 1.

can be extravasated without passing into the scrotum or perineum.

Although in my experience the compression which caused the injuries of the pelvis and urethra has been generally lateral, it is possible that rupture of the urethra may also occur when the force of the injury has been directed from before backwards. In one case in which the nature of the accident rendered it uncertain in which direction the pelvis was actually compressed (the man was crushed under falling brickwork), the urethra was torn completely across in the usual position—viz., immediately in front of the prostate. At the post-mortem examination it was noted that the triangular and sub-pubic ligaments, though completely detached from the pubic arch, remained in connexion with the fascia lata of the thighs. The right pubis was unbroken, the left broken at each ramus. It is possible that the broken pubis and the bladder were pressed violently backwards by the blow, while the triangular ligament was prevented from accompanying them by attachments to the fascia lata of the thighs. The effect of this would be to snap the urethra just behind (or above) the triangular ligament. Although this is a possible explanation of the conditions actually found, the latter might even more probably have been caused by lateral instead of antero-posterior compression in the manner already described.

The occurrence of ruptured urethra in cases of fractured pelvis caused unequivocally by antero-posterior compression has not come under my own notice. It is mentioned in Bergmann's "System of Surgery" on the authority of several writers, but no particulars are given. Since I first pointed out and described the peculiarities of intrapelvic rupture of the urethra several writers have confirmed my observations and recorded similar cases, though different explanations have been suggested as to the manner in which the injury is caused. In 1901 Mr. C. J. Bond[2] of Leicester, in a paper on the treatment of cases of fractured pelvis with ruptured bladder or urethra, remarks: "There is the tender board-like, dull area above the pubes spreading laterally to the groins, which is due to the extravasation of blood and, in the case of injury to the bladder, the addition of extravasated urine in the prevesical space." He goes on to say: "In my experience the urethra gets injured where after the fall the crush comes *with the patient lying on his side*, thus driving the fractured sides of the pubic arch together like the blades of a pair of scissors and injuring or completely dividing the urethra in its membranous portion, *just in front of the apex of the prostate*. On the other hand, where the pelvis is crushed from before back the urethra is more likely to escape."

In 1902,[3] a case, a boy, aged seven years, was admitted to St. Mary's Hospital under the care of Mr. Edmund Owen suffering from an injury caused by a pile of coffin lids which had fallen on him. Both tibiæ were fractured, and there were marks of severe bruising over the lower part of the abdomen. An incision was made above the pubis and extravasated blood and urine were found in the prevesical space. The bladder was full of urine and not ruptured. "Inasmuch," says the report, "as no instrument could be passed into the bladder whilst there was escape of urine into the pelvis (*but not into the perineum*), there could be no doubt but the rupture was behind the triangular ligament." "Had the neck of the bladder itself been torn the bladder would probably not have remained full of urine under pressure. The rent, therefore, must have been between the neck of the bladder and the triangular ligament." No mention is made in any part of the report as to whether there was a fracture of any part of the pelvis.

A case very similar to this came under my own care in 1902. A boy, aged 14 years, while working in a coal mine was crushed between two tubs. The squeeze compressed the pelvis laterally. He walked home with help. About ten minutes after the accident blood began to come from the penis and continued to do so slightly all day. Three hours after the accident he passed urine free from blood with considerable pain. He was sent to hospital and on admission a few hours after the accident there were noted blood oozing from the penis, tenderness in the perineum, and a dull swelling above the pubis. A soft rubber catheter drew off a few ounces of urine, part bloody, part quite clear. An incision was made in the perineum, the skin of which was ecchymosed, and the urethra was found ruptured behind the triangular ligament. It was evident that the catheter had not passed into the bladder but merely into a lacerated space between the pubis and the neck of the bladder. The latter was felt distended to halfway between the pubes and umbilicus. The distal end of the ruptured urethra could not be found. An incision above the pubis showed that the bladder was intact and distended. It was opened and a large quantity of clear urine escaped from it. A soft rubber catheter was passed backwards through the bladder, out at the perineal wound, and afterwards through the anterior part of the urethra and penis, being finally fixed in position by a suture through the frænum preputii. Further examination through the perineal wound showed that the rupture was not quite complete on the dorsal aspect. Careful examination showed no sign of any fracture of the pubic arch or any part of the pelvis. The bladder and the suprapubic wound were completely sutured and sealed with collodion. The perineum also was sutured with the exception of a small space behind for a drainage-tube. The bladder was continuously drained by Cathcart's apparatus attached to the catheter for nine days. Both wounds healed per primam, and one year later there was no stricture or urinary trouble.

In this case the anatomical findings were exactly similar to those of Mr. Owen's case. In both the rupture was a typical intrapelvic rupture just behind the triangular ligament, and in both the extravasation of blood was intrapelvic and not perineal. In both the bladder itself was intact. In my own case two additional facts were noted: the compression of the pelvis was lateral (not antero-posterior) and the pubic arch was certainly not fractured, for it was carefully examined during the operation. This fact disposes of the explanation sometimes offered of the rupture, namely, that it is caused by the direct approximation of the sides of the broken pubic arch cutting the urethra as if between the blades of a shears—the explanation adopted by Mr. Bond. It is significant that both cases were children in whom it is probable that a much greater deformation of the pelvis may occur without fracture, and strongly supports the view put forward above that the rupture of the urethra is due to a violent stretching of the soft parts in the median sagittal plane.

In 1904 Dr. Henry Rutherfurd[4] published a paper on ruptured urethra in which the following case is described. A crush, of which the exact mechanism was obscure, produced a fracture through the body of the pubis close to the symphysis, and there was complete division of the urethra "close in front of the prostate."

In 1905 Dr. David Lowson[5] of Hull, in reporting a case of intrapelvic extravasation of urine, describes with great clearness the position of ordinary ruptures of the urethra in the perineum and the course which the extravasation takes in this injury. He then contrasts it with a case in which a gentleman was thrown from his horse and the horse fell on top of him. There was no swelling or sign of extravasation in the perineum or scrotum but a large dull tumour above the pubis reaching three parts up to the umbilicus. This was found to consist of blood mixed with urine lying in front of a full unruptured bladder. Careful palpation detected no fracture of the ischial or pubic ramus. Dr. Lowson suggests that "the perineum came in violent collision with the hard projecting earth and that the floor of the pelvis with the bladder was driven up into the abdomen; that the right pubo-vesical ligament and all the soft structures were violently torn off the bone and forced up into the abdomen, and that at the same time the pudic vessels were torn across and the urethra completely severed just at the tip of the prostate behind the deep layer of the triangular ligament." Against this explanation seems to militate the absence of the bruising of the perineum which one would expect from so violent a blow. It seems to me more probable that the case was really one of lateral compression of the pelvis, the mechanism of which has been explained above.

The cases which I have quoted confirm in almost every particular the description of intra-pelvic rupture of the urethra which I described in 1894, although, so far as I am aware, my observations were not known to any of the authors of them. The testimony to the accuracy of my description being in each case quite independent is the more striking and valuable.

Various methods of treatment have been adopted and

[2] THE LANCET, Nov. 23rd, 1901, p. 1404.
[3] THE LANCET, Feb. 15th, 1902, p. 443.
[4] THE LANCET, Sept. 10th, 1904, p. 751.
[5] THE LANCET, March 25th, 1905, p. 790.

recommended for dealing with rupture of the urethra complicating fractures and injuries of the pelvis. The earlier writers recommend first to try to introduce a catheter into the bladder and if this succeeds to leave it as long as circumstances permit. As a matter of fact, this course is seldom practicable, for when the rupture is complete it is almost impossible to reach the bladder by simple catheterisation, the ends of the torn urethra being separated by a considerable interval. If successful at all it can only be achieved by a rigid instrument which is unsuitable for continuous drainage of the bladder. What often happens when a catheter is passed is that it enters the prevesical space and as it draws off several ounces of extravasated urine which collects in that position, and as the point of the catheter is felt to lie in a free space the bladder is thought to have been successfully entered when in reality it lies full of urine behind the catheter. I have committed this error myself and seen it done several times by others. The importance of knowing this possibility is obvious. When the attempt to empty the bladder by means of the catheter has been made without success, the next step formerly advised was to make an incision in the perineum and attempt to reach the bladder by that route. If it fails, extravasated urine will soon find its way out through the perineal wound and further mischief will be prevented.

Mr. Bond, whose paper I have already quoted and who recognises clearly the position of the rupture in the urethra, recommends adding a suprapubic incision to the perineal and in some cases advises opening the bladder suprapubically and passing a drainage tube through the neck of the bladder and out at the perineal wounds. Dr. Rutherfurd[6] also advises combined suprapubic and perineal drainage, together with the use of a soft catheter passed along the whole course of the urethra. Dr. Lowson[7] adopted a similar procedure in his case with good result. My own practice is to rely entirely on continuous drainage of the bladder through a rubber catheter passing along the whole length of the urethra into the bladder and attached to Cathcart's suction apparatus. The advantages of draining the bladder by the natural route are obvious. In the first place, it approximates the torn ends of the ruptured tube and permits union and repair to take place under the most favourable and most rapid conditions. In the second, it is possible by this means to keep the bladder continuously empty without the escape of any urine into the wound. Cathcart's apparatus is by no means effective when attached to a tube introduced into the bladder through a suprapubic incision, because it is almost impossible to prevent the entry of air into the tube, and this greatly impair its powers of suction. But when the same apparatus is applied to a catheter introduced through the urethra this difficulty does not occur and I have found it perfectly reliable.

It may be said that, granting the advantage of draining the bladder through a catheter in the urethra, it is not always possible to introduce it. I believe that if the anatomy of the injury is correctly appreciated there will seldom be any difficulty in finding the distal end of the torn urethra through a perineal incision, which should always be the first step in dealing with these cases. I have mentioned that the bladder and prostate after the rupture, when complete, fall back on the rectum into the hollow of the sacrum. By palpation through the rectum it is easy to identify the prostate and then to bring it into the perineal wound, where the orifice of the urethra is easily seen. In the case of my own mentioned above the rupture was not complete, and the patient not having reached puberty the prostate was not easily felt. I therefore opened the bladder above the pubes, as was done also by Dr. Lowson[8] in his case, and passed the catheter from behind forwards. By this means if necessary a catheter can always be introduced through the whole course of the urethra. It will be noted that in the case of the boy alluded to I completely closed the bladder in order to insure the success of the suction through the catheter. Healing of both wounds was primary and the whole convalescence was rapid and complete. A subsequent case of complete rupture with fractured pelvis treated by the same method, but without a suprapubic cystotomy, was equally satisfactory and normal micturition was resumed in three weeks.

The question of suturing the torn urethra depends on circumstances. When the rupture is complete and the torn ends are widely separated sutures should certainly be employed. In the first place, the obvious thing to do to repair a gaping wound is to sew it up and so promote direct dealing and diminish the chance of stricture. In the second place, it is important to retain the torn ends firmly together in case it may be necessary to change the catheter. When the urethra is held together by strong supporting sutures of silkworm gut (not passing through the mucous membrane) the catheter may be removed at the end of a week or earlier if necessary and a fresh rubber catheter introduced quite easily. When the rupture is not complete and the torn ends fall naturally together the sutures may be dispensed with.

The chief objection likely to be raised to the method I have recommended is the danger of closing a large wound which is liable to become septic. Sepsis is indeed a danger of all wounds and in urinary surgery it is peculiarly dangerous. Drainage of the pelvic wound should therefore always be provided for by tubes or gauze wicks for the first 48 hours, or longer if necessary. Sepsis can be prevented in the great majority of cases if the same scrupulous care is exercised in urinary as in all other cases. The chief risk is that infection has already occurred before the case comes under the surgeon's care, either by neglect or by the introduction of a catheter without proper precautions. In a case in which the history and symptoms make an injury of the bladder or urethra probable it would be well if house surgeons or others who are first called would refrain from passing dubious instruments and leave all manipulations to be done in the operating-theatre under proper conditions. Apart from previous infection all the conditions are favourable for aseptic healing. The patients are generally healthy and young, with normal urine, which opposes no bar to primary union even if it comes for a short time in contact with the wound.

Lastly, a few words may be added on the treatment of rupture of the urethra due to direct violence in the perineum, such as kicks and straddling falls. The guiding principles are exactly the same. Avoid infection by careless catheterisation and cut down *at once* in the perineum whenever the passage of blood from the penis makes it certain that the urethra has been wounded. Even contusions and partial mucous lacerations are apt to be followed by stricture if not incised, drained, and where necessary repaired by sutures. When the rupture is in the membranous part, it is, as I have already pointed out, in front of the triangular ligament and in this position the rupture is easily found even when it is complete. A soft catheter should be passed into the bladder and the two ends of the urethra brought together over it by means of sutures just missing the mucous membrane. The perineal wound is then closed with the exception of a small portion drained by a gauze wick, and if the urine be drained by Cathcart's apparatus for a week, primary union of the urethra without stricture is not difficult to obtain. The method of merely passing a catheter and tying it in always leads to sepsis and is no bar whatever to the production of stricture. The method is faulty and dangerous and should be entirely abandoned.

Note.—I have omitted to refer to another published case which illustrates very clearly the difference between pelvic and perineal ruptures of the urethra—namely, "A Case of Fatal Pelvic Injury in a Child in which a Collection of Blood in the Prevesical Space simulated Distension of the Bladder," by Mr. Herbert Page.[9]

Wolverhampton.

[6] Loc. cit. [7] Loc. cit. [8] Loc. cit.

GALL-STONES IN THE APPENDIX.

BY H. A. LEDIARD, M.D. EDIN., F.R.C.S. ENG.,
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A MAN, aged 26 years, was admitted to the Cumberland Infirmary in April, 1906, complaining of having had two attacks of abdominal pain, diagnosed as appendicitis. The patient was very healthy up to two or three years ago, when he began to suffer occasionally from slight abdominal pain and discomfort after taking food and at times a feeling of weariness or actual pain in the lumbar region after any exertion. Two years before admission he was operated upon for inguinal hernia in this infirmary. The patient as a rule had been rather constipated and was especially so about four months before admission; for some weeks at this time he noticed that his urine was of a dark reddish colour on

[9] Brit. Med. Jour., July 18th, 1896.

standing. About a month before admission the patient had an attack of acute pain over the whole lower abdomen lasting one day. He vomited once then and had to keep to bed all day. On the next day, although he felt some slight abdominal pain and was rather weak, he went back to work again. His urine at this time was again thick and dark red in colour. He remained fairly well for a month and then seven days before admission acute abdominal pain began, mostly about the umbilicus, but later becoming more marked in the right iliac region. There were frequent vomiting for the first day, severe headache, and constipation, while tenderness and slight resistance were found over the appendix region. The pain gradually lessened and vomiting ceased, until in four days he was able to get up and on admission, three days later, there was no pain or tenderness and he was quite able to go about. At no time had the patient had pain over the liver region, in the chest or about the shoulders, nothing ever suggesting gall-stone colic, nor had jaundice or even the slightest yellow tinging of the skin or conjunctiva been noticed either by the patient or his friends. No gall-stones had ever been seen in the motions.

The abdomen was opened in the right iliac region and the appendix was exposed. Slight adhesion of the appendix to the posterior abdominal wall at one point was found: the appendix was long and had rather thickened walls. The mesentery was tied and the appendix was removed. It was found to contain some turbid mucus and 11 small stones, of varying sizes from that of a pea to that of a large pin-head. These stones were black in colour, rather soft, and faceted like gall-stones. On examination they were found to consist of cholesterin and to contain bile pigment. The patient made a good recovery and was discharged in about three weeks. For the clinical notes I am indebted to Dr. William Templeton, house surgeon in the hospital at the time.

Remarks.—The occasional presence of gall-stones in the appendix is fully established and is alluded to in general terms by modern writers of text-books. Roberts,[1] for example, remarks "that they cause trouble by lodging in the vermiform appendix." As far back as 1871 it was a recognised fact that gall-stones were liable to be arrested in the appendix,[2] but Murchison, in writing on the same subject, expressed a doubt if the concretions were not intestinal rather than biliary.[3] That the occurrence is not exactly frequent may be gathered from Naunyn who in 1892 wrote[4]: "It has happened that a gall-stone has made its way into the vermiform appendix, the result of which accident may be perityphlitis and fatal peritonitis." Naunyn mentions Budd's case, quoted also by Murchison, in which a gall-stone in the vermiform appendix caused perforation and fatal peritonitis. The same author mentions cases of a similar kind by Trousseau, Sirey, Rehn, Treves, and Wegeler. In Wegeler's case the supposed gall-stone was by chemical analysis proved to consist of fæcal matter. Mistakes of this kind might easily arise if the appearance only of the concretion was relied upon; if, however, a concretion was faceted and had a chink-like sound when allowed to fall on a hard surface such as a marble slab, it would probably be a gall-stone, but chemical analysis will always remain as the true test to determine the source of a concretion in the appendix.

As a general rule the size of stones met with in the gall-bladder or separated from fæcal discharge is too large to enter the canal of the appendix, and the same is true for the stones of fruit, formerly supposed to get into the appendix; the stercolith having simulated an orange pip or a damson stone. Here again a chemical analysis would effectually serve to get rid of a fiction which has been repeated in all books and is still believed in by some. What I suggest is that all concretions found in or near the appendix, or in an abscess or otherwise, should be systematically examined by section and by analysis in order to settle definitely whether a concretion is a stercolith or a gall-stone, covered or not by fæcal deposit. On one occasion a hair was imbedded in a stercolith from an operation I performed lately, and a similar experience fell to Mr. W. H. Battle.[5] The hair was possibly the nucleus on which the concretion formed, and in the same way a gall-stone or some other foreign body might become a nucleus. Treves[6] has written that mischief in the appendix may be due to a foreign body, such as a pin, a grape pip, a small shot, a piece of bone, and the like. "Most of the so-called cherry-stones," he writes, "and date-stones found in the appendix are calcareous concretions mixed with fæcal matter."

A good example of fæcal calculus was removed lately in the course of an appendix operation; it shows that a seed has formed the nucleus and around it are layers of inspissated fæces and the whole is impregnated with lime salts. By the courtesy of Mr. D. Prain, director of the Royal Botanic Gardens, Kew, this concretion was examined by Mr. L. A. Boodle, F.L.S., assistant in the Jodrell Laboratory in the garden. The nucleus was compared with practically all the objects that might conceivably be met with in such a situation—grape or raisin, gooseberry, currant, and other small seeds of fruits generally consumed—but it did not agree in the least with any of them. But with the fruitlet, or "pip," of a fig it agreed so absolutely in size, general appearance, and structure that, in the opinion of Mr. Boodle, the nucleus of my concretion could be accepted with hardly any hesitation as coming from the fig.

Concretions can sometimes be felt in the appendix through the abdominal wall without the aid of an anæsthetic, the favourable condition being a relaxed state of the muscles and a moderately thin paries. In the case recorded these gall-stones were actually felt, not all but some, and in consequence of the presence of concretions the operation was done, although the condition of the patient seemed absolutely healthy. There cannot be much doubt that these gall-stones would have perforated sooner or later.

The pathological association of gall-stones in the gall-bladder and appendicitis, to which attention has been drawn, is hardly an established doctrine and may be merely a coincidence, although 35 per cent. of Ochsner's patients operated on for gall-stones had suffered from appendicitis.[7] Strange indeed it would be if destructive lesions in the appendix by infecting the blood in the portal system were among the causes of the formation of gall-stones and that gall-stones might find their visit a return one to the appendix. The whole question is dealt with by Moynihan. A death from perforation of the appendix by a gall-stone is recorded by Mayo Robson in THE LANCET of Dec. 29th, 1906, p. 1768.

Carlisle.

[1] Roberts: Theory and Practice of Medicine, vol. ii., p. 846, tenth edition, 1905.
[2] J. Russell Reynolds: System of Medicine, vol. iii., p. 314.
[3] Clinical Lectures on Diseases of the Liver, third edition, 1885, p. 551.
[4] B. Naunyn: A Treatise on Cholelithiasis, translated by A. E. Garrod, New Sydenham Society, 1896.
[5] Descriptive Catalogue, Pathological Specimens, Museum of the Royal College of Surgeons of England, 1905, Appendix xix., second edition, p. 14. No. 2559 C.
[6] Treves on Appendicitis, System of Surgery, vol. ii., p. 625, 1896.
[7] Annals of Surgery, vol. xxxv., p. 708. Quoted by Moynihan, Gall-Stones and their Surgical Treatment, second edition, 1905, p. 70.

PNEUMOTHORAX FROM PUNCTURE OF THE PLEURA.

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As pneumothorax is an uncommon condition and stab wounds are, fortunately, also not common, at least, in England, I thought the following case might be of interest. I was at the time surgeon on a well-known line to the East and the vessel under my charge was running down the Red Sea with a shade temperature of 104° F., when one evening the native barber (my interpreter and go-between with the native crew) came and reported that one coolasie (lascar sailor) had stabbed another in the back with a clasp knife having a three-inch blade. It was then about 8.30 o'clock on the evening of July 21st, and on walking aft I found a well-built lascar, about 24 years of age, with a terrified face lying in a pool of blood surrounded by a curious ring of squatting natives.

On examination the patient had an anxious expression, his respirations being very rapid, shallow, and thoracic in nature, his chest being in a position of full inspiration, especially on the left side, which looked almost blown up. There was a clean-cut incised wound three-quarters of an inch long in the back between the eighth and ninth rib and two and a half inches from the mid-line, which was perfectly clean and had stopped bleeding, the loss of blood having been unimportant. There was no surgical emphysema. The pulse was rather feeble and rapid, the patient evidently

suffering from shock but not to a severe degree. The apex beat of the heart could not be detected but the cardiac dulness was considerably diminished in area and displaced towards the right side, the dulness beginning at the left edge of the sternum above, about the fifth rib, and stretching to the left to a point two and a half inches internal to the nipple line, while on the right it reached some little distance to the right of the sternum. The liver dulness could not be satisfactorily made out and this organ could not be felt owing to the patient holding his abdomen extremely rigid. The percussion note over the whole left chest was more resonant than on the opposite side, but the hyper-resonance was not very pronounced. On auscultation the heart sounds were faint but normal, the maximum apex beat being two and a half inches internal to the nipple line, agreeing with the percussion dulness. The breath sounds were almost absent over the left chest; there were no adventitious sounds. Coin sound was not tried, neither was succussion sound. There was no expectoration nor hæmoptysis and but very little pain. The diagnosis of partial pneumothorax was made and also probable penetration of the lung. The wound was cleaned up and dressed but was left unprobed, while the patient was ordered to remain still under the watchful care of the almost panic-stricken barber, and instruments were got ready in case the wound either in the lung or parietal pleura should act as a valve and render an immediate operation necessary, and finally, an electric cargo lamp was swung overhead. The patient's condition improved during the night and he slept fairly well, the breathing becoming less shallow and the symptoms of shock passing off.

On the following day the patient seemed fairly comfortable but complained of pain in the left side of the abdomen just beyond the end of the eighth rib. The left chest was resonant except at the back in the wound area where possibly there was some dulness. The breath sounds on the same side were extremely faint, being practically absent. The temperature was 99°. On the 23rd he spat blood two or three times during the morning, but his condition was good and he was quite comfortable except for the pain in the left side of the epigastrium, which was not at all severe but was increased by coughing or a "big speech." The temperature was 99°. Heart dulness began above between the third and fourth rib, the apex beat and left limit of cardiac dulness being one inch internal to the nipple line, while it did not extend to the right of the sternum. The liver dulness was normal and the liver could not be felt, though the abdomen was flaccid. Resonance and breath sounds were normal; there were no adventitious sounds or dulness. On the 24th no blood-spitting had occurred since 1 P.M. the previous day. The patient had no cough but felt comfortable and well, only having slight pain in the left epigastrium on deep inspiration or changing his position. The thorax was quite normal except that behind at the left base the breath sounds were fainter than on the opposite side, but the resonance was equal. The temperature was 98·4°. The tongue was clean and the abdomen was soft. The man was moved into his quarters on account of the South-West Monsoon. On the 25th and 26th his temperature was 99° but he was otherwise well.

On July 27th the coolasie was discovered sitting up quite normal in all respects, though he complained of pain on the previous night. On the 28th there was still a little pain. On the 29th the patient was very well and happy, complaining of pain for the last time. The breath sounds at the left base behind were harsher and more audible than on the right side. Other signs were normal. The wound had healed by first intention. On the 31st he commenced walking about but had anæsthesia in the left epigastrium beyond the end of the eighth rib about two inches by three inches in extent. On August 3rd the chest was normal in all respects but the anæsthesia continued. The patient was seen up to August 5th, when having reached port he went ashore and was lost sight of.

I consider the chief point of interest about the case is its affording another proof of the rapidity with which air can be absorbed from the pleural cavity. As regards the side issues, the intercostal nerve must have been severely damaged, if not severed, while with respect to the changes at the left base it is difficult to say to what they were due, but a possible explanation is that there was at first an inflammatory exudate giving slight dulness and afterwards diminished breath sounds, even when the note was not impaired; then absorption took place and also some fibrosis of the wounded lung, which thus became a better conductor of sound and caused harsher breath sounds. No doubt there are other points that might have been noticed but I must plead the difficulties to which a ship's surgeon is subjected: he cannot speak the language, is helped in all small matters only by an incompetent barber, and last, but not least, has to contend against the noise of the engines, steam steering gear, and South-West Monsoon.

Ashburton, Devon.

A SUGGESTION FOR THE TREATMENT OF CASES OF CHRONIC SCIATICA AND SIMILAR FORMS OF NEURITIS.

BY J. CURTIS WEBB, M.A., M.B., B.C. CANTAB.

CERTAIN cases of sciatica, or indeed of any form of neuritis, are at times of so obstinate a nature as to be the despair of the unfortunate sufferer as well as of the one or the many medical men from whom alleviation is sought. Some cases are slight and yield easily to treatment but in a large number remedy after remedy is tried in vain, till at last the disease may seem to exhaust itself and leave the patient worn out by pain, with more or less stiffness in the limbs, and the retrospect of months wasted in invalidism and of a purse much lightened by fruitless searches after relief. In many cases, too, even if the trouble be not continuous, it may disappear, only to recur again at shorter or longer intervals with equal or even increased severity till the unfortunate patient feels that his nerve is like a volcano constantly on the verge of an eruption and liable to break out on the smallest stimulus. Having for some long time past been using static electrical treatment for a variety of diseases, and having had some remarkably successful results in several most obstinate and chronic cases of sciatica, I am anxious to bring this remedy more prominently before the profession. And here let me mention for the benefit of those who are ignorant of this form of electricity that it differs radically from currents derived from battery or dynamo on the one hand—whether continuous faradic, sinusoidal, or polyphase—and from "high-frequency" currents on the other. Its voltage is enormous, its ampèrage infinitesimal, and its frequency of pulsation (for it is not alternating in ordinary circumstances) anything that the operator wills. It is unnecessary here to say more than that I employ for the class of case under discussion the Morton wave current, the brush, and indirect sparks. Those who possess static machines will know the modalities I refer to; those who do not would find a long dissertation on influence machines and their methods of use wearisome and useless. The important point at the moment is the *result* of the treatment, specially as it applies to sciatica or other forms of neuritis. Let me briefly mention a few cases.

CASE 1.—An officer in the army, aged 40 years, got his first attack of right-sided sciatica in Cashmir in November, 1895. The pain extended from the notch to the heel. While his pain was not so severe as to cause him to be invalided for any length of time it always came on if he got over-tired or much worried, and at times would quite cripple him. When he came to me in October, 1904, he had had a severe attack since August. He could hardly walk, and sitting was accompanied by great pain in the sciatic notch. He had static treatment and no other remedies for about four weeks, when he went away quite free from pain or stiffness. In December, 1905, he wrote me that he "had a slight reminder of it in January which lasted less than 24 hours and since then has had absolutely no return of the sciatica at all." I saw him a few days ago and he is still quite free. Considering that since November, 1904, he has been engaged in work in Ireland necessitating long bicycle and jaunting-car rides in all weathers and sleeping in wayside inns and that he has also had a great deal of brain work and worry I think one may regard his cure as fairly established, though the malady had lasted nine years. There is no stiffness whatsoever left.

CASE 2.—A man, aged 59 years, has always had a tendency to sciatica in both legs. It was sometimes severe, sometimes slight, but he was always liable to attacks on the slightest provocation. When I saw him in June, 1905, he had been suffering rather severely in the left leg, so I put him on static treatment. He only had six applications when he was quite

free from pain and in May, 1906, he told me he had had no sciatica all the winter in the limb I had treated though he had had it in the nerve of the opposite side to a slight degree.

CASE 3.—In December, 1905, a man, aged 53 years, came to me from Herefordshire. He had been suffering from sciatica in the left leg since early in the preceding August. Prior to my seeing him he had been to Droitwich, where he had 32 brine baths with massage and "battery." He was no better and after being at home for ten days he went to Bath and had Dowsing radiant heat and daily applications of the "battery." After this he came to town to consult a nerve specialist who advised rest in bed for a fortnight and a mixture. This treatment he continued for five weeks without much benefit. He was at the same time taking sulphaqua baths and having mustard leaves applied over the nerve. Although when he came for treatment he stayed at a hotel within five minutes' walk of my house he was compelled to come round in a four-wheeler, into, and out of, which he always had to be helped. He commenced the applications on Dec. 12th and came twice a day and returned home on the 27th cured, save for a little stiffness. I should add that, in addition to the static treatment, the patient had a few applications of the x rays and some concentrated arc light along the line of the nerve. As the stiffness still persisted he returned in February, 1906, and had six treatments when the stiffness left him. In June his wife reported that he was perfectly well as far as his sciatica was concerned, though he did occasionally have general gouty sensations all over, but never any tendency to a return of his old symptoms, and on Nov. 1st he wrote that he still remained free from pain and could walk well without any limp.

CASE 4.—This is a peculiarly interesting case, as the patient, aged 29 years, was, at the time of his first attack two and a half years ago, house physician at one of the largest London teaching hospitals. The attack was so acute that he was "warded," and was therefore in a position to have the very best advice and treatment. He was in hospital for three weeks and then went to Buxton for three weeks and later to Aix-les-Bains for nearly two months. He got somewhat better and took up his appointment in November, 1904, and worked for five months, but always in some pain, and used to take aspirin and receive electric baths and applications in the special department of the hospital. He then had another acute attack and from that time till I saw him in July, 1906, he had tried almost every form of treatment. He had been to Bath for two months, where he was on a sofa nearly all his time with such severe pain that he had to use morphine hypodermically. He had had three weeks at Droitwich and a month at Salsomaggiore. The nerve had twice been stretched by the closed method. He had had Dowsing light treatment, radiator light, massage, high-frequency, and De Watteville current applications—in fact, everything that money could procure or the united talent of his hospital staff could suggest had been given a trial. When he first came to me the pain was so bad on standing or walking that he could take no exercise and was quite unable to follow his hospital work. He has had a total of 72 static treatments and is now able to play two rounds of golf a day without feeling his leg unless he gets very tired; he can spend hours going round the wards of the hospital or standing watching operations; and he can play tennis and is just now taking up a resident appointment at another large metropolitan hospital. His progress was slow at first. He began treatment on July 26th and ceased temporarily on August 11th, when he was better, but far from cured. I went away for my holiday and he proceeded north. On Sept. 8th he wrote me: "It is high time I reported the marked improvement I have made. I can play occasional sets of tennis, and one afternoon I played three rather long ones in complete comfort—a fourth rather stirred up the sciatica again, but I felt none the worse for it next day. I still feel the indefinite pain hanging about, always varying a little, but still I am very pleased to be able to do as much as I can, and am in great hopes that another dose of static electricity may effect a cure." I mention this point as I wish to draw attention to a fact about electro-static treatment—viz., that very often one seems to be only making slight progress during a course of applications, but that if one stops for a time the improvement goes on steadily. In many instances the treatment aggravates the symptoms at first, which I always regard as a good sign, inasmuch as in my experience I find that it indicates that the trouble is not too chronic for improvement to be hoped for. On Oct. 1st treatment was recommenced and ceased on Oct. 22nd, he being apparently cured. Of course, this case has not yet stood the test of time, but, judging from my previous results, I see no reason why, with ordinary care, the patient should relapse. He is to-day quite free from pain and able to do all the work of his hospital appointment.

I have purposely not touched on any of the early sciaticas or other forms of neuritis that I have treated. I find that invariably, if the patient be not too advanced in years, one can effect a rapid cure in these cases if one can get them right from the onset. All forms of neuritis or neuralgia, provided they are not due to pressure of tumours or other irremoveable cause, are among the most satisfactory of the many cases that can be cured or relieved by this most potent therapeutic agent.

Bina-gardens, S.W.

A CASE OF INFLUENZAL MENINGITIS.

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ALTHOUGH cases of meningitis occurring during, or following immediately upon, an attack of influenza have from time to time been reported in this country, the number of instances in which Pfeiffer's bacillus has been recognised in the cerebro-spinal fluid or in the meningitic exudate are not numerous. It seems, however, that it is much more common to find this bacillus in such situation accompanied by other organisms than to find it in a pure state. Althaus,[1] in his monograph on influenza, mentions that several observers had seen meningitis and meningo-myelitis in consequence of an attack of this disorder. Weichselbaum[2] quotes Pfühl[3] as being the first to show that Pfeiffer's bacillus could be found in the exudate of certain cases of meningitis and also gives references to the work of several other observers. P. M. F. Stéphane Dubois[4] at a later date collected 11 examples of meningitis in which the bacillus influenzæ was present, a post-mortem examination having been made in the case of nine, whilst in the remaining two the organism was found during the life of the patient. He deals in a very thorough manner with these cases, concluding, as also does Weichselbaum, that the meningitis is generally secondary to affection of the naso-pharynx or adjoining sinuses, more rarely to middle-ear disease, occurring in consequence of a pre-existing, and more usual type of, influenza.

Besides the cases collected by Weichselbaum and Dubois, other examples of meningitis, in which Pfeiffer's bacillus was present in the exudate, have been described by Thomesco and Graçoski,[5] by Mya[6] (three cases), and in this country by Nuthall and Hunter[7] (three cases), and by Bury.[8] Nuthall and Hunter found a bacillus which, morphologically and in staining properties, resembled the bacillus of Pfeiffer, mingled with pathogenic cocci in three out of ten cases of cerebro-spinal meningitis examined by them with bacteriological methods. They mention that a similar organism had been demonstrated by Nauwerk, Högarstedt, and Leichtenstern, and state that Slawych[9] and Lander[10] had recorded undoubted instances of a meningitis caused by the bacillus influenzæ. Bury brought forward Dreschfeld's case in which the necropsy was performed by Moore who found in the exudate, in sections stained with dilute carbol-fuchsin, bacilli resembling those of Pfeiffer and mentions some other cases which are also quoted in the papers mentioned above.

[1] Althaus: The Pathology and Prevention of Influenza.
[2] Weichselbaum in the Handbuch der Pathogenen Mikroorganism, edited by Kolle and Wassermann, vol. iii., p. 288.
[3] Pfühl: Berliner Klinische Wochenschrift, 1892; quoted by Weichselbaum.
[4] Stéphane Dubois: Thèse de Paris, Nov. 27th, 1902, No. 49.
[5] Thomesco and Graçoski: Bulletin de la Société des Sciences Médicales de Bucharest, ii., 1904; abstracted in Revue Neurologique, 1905, p. 44.
[6] Mya: Gazetta degli Ospedali e delle Cliniche, xxvi., 1905; abstracted in Revue Neurologique, 1903, p. 704.
[7] Nuthall and Hunter: Brit. Med. Jour., 1901, vol. ii., p. 784.
[8] Judson Bury: Ibid., 1900, vol. ii., p. 879.
[9] Slawych: Included also in Dubois's cases.
[10] Lander: Jahrbuch für Kinderheilkunde, 1901, quoted by Nuthall and Hunter.

The introduction of the examination of the cerebro-spinal fluid withdrawn by lumbar puncture to clinical methods has given us a chance of determining the presence of the micro-organism responsible for a cerebro-spinal meningitis during the life of the patient and so of placing the diagnosis of the condition on a sounder basis. It is to be hoped that this will lead to the identification of the influenza bacillus in certain cases of meningitis, even though the patient recovers from the attack. For contamination of an organism quickly occurs after death, as is well shown in the case recorded below.

The patient, a female infant, aged ten months, was admitted into St. George's Hospital under Dr. H. D. Rolleston's care on March 22nd, 1906, with a two days' history of rigidity, general pains, and irritability. No tuberculosis, rheumatism, or fits occurred in the family history, the patient being one of six children, all of whom were healthy. The child was born at full time by normal labour, was fed on cow's milk, and had had no previous illness. During the two days previous to admission the patient had had several attacks of rigidity and general pain on movement but slept well—occasionally screaming during sleep. On the day previous to admission the child vomited three times. She had no cough, fits, or diarrhœa.

On admission the infant was well nourished and was lying in bed on her right side giving vent, about every half hour, to occasional screams. The anterior fontanelle was patent, pulsating, and presented a slightly increased tension on palpation. No squint, inequality of pupils, or paralysis of the ocular muscles was observed and the discs were clear. The tongue was moist and clean, while the heart and lungs were normal. The abdomen was slightly distended and tympanitic. There were no enlargement of the spleen, no ascites, and no sweating. As regards the nervous system, all the cranial nerves were normal and the retinal discs were clear. There were no muscular wasting and no obvious loss of power in the muscles, all of which presented good tonus. Kernig's sign was present and slight rigidity of the neck muscles, but no obvious head retraction. Sensation was apparently normal. All deep reflexes were increased, but no clonus could be elicited. The abdominal and epigastric reflexes were absent, while the plantar reflex was of the extensor type. At this time the temperature was 101·2° F., the pulse was 136, and the respirations were 48 per minute.

On March 26th the child had become semi-comatose and exhibited a squint owing to paralysis of both external recti muscles. The ocular discs remained clear and occasional twitching of the levator anguli oris was noticeable together with slight weakness on the left side of the face. The abdomen was less distended, while the anterior fontanelle was bulging more, but still pulsated. Nasal feeding had become necessary. Lumbar puncture was performed, five cubic centimetres of fluid being withdrawn. This contained many polymorphonuclear leucocytes, much albumin, and was yellowish in colour. Examination of the cerebro-spinal fluid showed that the freezing point gave $\Delta = -0·75°$ and that sodium chloride was present up to 0·78 per cent. In the fluid were many feebly staining fine, short bacilli, which culturally and microscopically corresponded with the influenza bacillus.

On March 27th the child entered a series of spasmodic states, commencing at 6 A.M. During these all the limbs were extended with rotation inwards of the forearm with fingers adducted and thumb flexed across the palm. The feet were inverted and the toes were hyperflexed. The spasms were tonic in character and persisted about half a minute, the limb spasm being accompanied by marked opisthotonos and bilateral contraction of the abdominal muscles. The hyperextended limbs were strongly adducted and the eyes were rolled upwards. The face did not appear to participate in the spasms. The onset of such a spasm was heralded by 10 or 12 deep inspirations, but during the attack the chest was fixed in the expiratory position. Except during the attacks, which occurred at intervals of about five minutes, the child lay motionless and did not respond to stimuli. The anterior fontanelle was still bulging, and death supervened at 1 A.M. on March 28th. Throughout the illness the pulse-rate was increased, varying between 124 (minimum) and 144 (maximum). The temperature was raised, varying slightly about 102°, but fell to normal on the morning preceding death (March 27th) and throughout that day gradually rose to 104·8° at 10 P.M. The respiratory rate varied between 48 and 32.

Necropsy.—I made a thorough post-mortem examination 12½ hours after death and found the body to be well nourished and all the thoracic and abdominal organs healthy with the exception of the lungs, which were emphysematous throughout with scattered areas of collapse, the liver, which showed cloudy swelling, and the pancreas and kidneys, which were somewhat congested. The skull was healthy, but on removal of the vault a quantity of nearly clear fluid escaped. Both middle ears contained thick mucus but no pus. The brain was well developed but was much swollen and somewhat softened and its convolutions were flattened. Over the surface of the organ under the pia mater was a quantity of thick green pus which was distributed along the line of the blood-vessels, both over the vertex and the base. The upper aspect of the cerebral hemispheres were more especially attacked in the frontal region. Here the pus formed a continuous layer stretching over all the gyri which lie in front of the fissure of Rolando, which itself was almost obliterated by the septic process. Behind this fissure the sulci were glued up by the exudate, but the summits of the gyri were almost free of pus. Below, the fissure of Sylvius was occluded and the pus lay upon the posterior part of the gyrus rectus on each side. In front of the chiasma and over the anterior surfaces of the temporal lobes the pus was thickly accumulated. Behind this pus was present over the mesencephalon and pontine regions, spreading outwards over the under surface of the lateral lobes of the cerebellum. In this region there was rather more pus over the right than the left cerebellar lobe. The contiguous surfaces of the occipital cerebral lobes and the cerebellum appeared to have almost escaped, a few beads of pus being alone evident along some of the blood-vessels save over the culmen monticuli, where a marked accumulation was in evidence. The lateral ventricles did not appear distended nor did they contain pus. Slight congestion of the brain substance was evident on section. The inner surface of the cerebral hemispheres was covered with pus along the lines of the blood-vessels, whilst over the upper aspect of the corpus callosum was a marked accumulation. The pus did not seem to have penetrated into the depths of the fissures. The fornix and corpus callosum were softened and infiltrated with pus. Covering the posterior and lateral aspects of the spinal cord was a thick layer of pus extending throughout its length. In thickness the purulent material was nearly as great as the diameter of the cord. The anterior surface of the cord was free from inflammatory exudate. Histological examination of the purulent exudate confirmed the naked-eye appearances.

Dr. C. Slater examined the cerebro-spinal fluid obtained during life by lumbar puncture, but found no tubercle bacilli in stained smears. There were seen, however, many small weakly stained bacilli in specimens treated with methylene blue, which were of the shape and size of Pfeiffer's organism and were situated both intra- and extra-cellularly. They took the dye rather better when stained with carbol-thionin blue, but lost the stain when treated by Gram's method. Some of the fluid was inoculated on agar, serum, and broth. At the end of 48 hours there was no growth found, but on adding some sterile blood to these tubes a good growth of typical colonies of influenzal bacilli was obtained in an uncontaminated condition. Dr. Slater further examined pus taken at the necropsy from the surface of the brain, some of the intraventricular fluid and some of the mucus from the middle ears. Smear preparations of each of these materials showed the same organisms. On agar the pus from the surface of the cerebrum gave a practically pure culture of Pfeiffer's bacillus, whilst the mucus from the middle ear and the cerebro-spinal fluid gave a good growth of influenza bacilli mingled with a sarcina flava and the bacillus coli communis. Similar results were seen on serum tubes inoculated with the same materials. The Pfeiffer's bacillus was further subcultured for some little time on blood agar. No animals were inoculated with the bacillus, as no sufficiently typical phenomena have been described in the case of animals injected with living cultures of the influenzal organism to aid the diagnosis.

In examining the literature I have been unable to find any other case of meningitis due to Pfeiffer's bacillus reported in this country in which the organism has been obtained in culture both from the cerebro-spinal fluid during life and from the meningeal exudate after death.

In conclusion I should like to record my thanks to Dr. Rolleston for allowing me to publish the medical notes of the case recorded above, and to Dr. Slater, the director of the clinical laboratory, for permitting me to record his bacteriological investigations.

St. George's Hospital.

THE PERSISTENCY OF THE INFECTION IN CERTAIN CASES OF SCARLET FEVER.

BY H. POOLE BERRY, M.B. LOND., M.R.C.S. ENG.,
MEDICAL OFFICER OF HEALTH OF THE BOROUGH OF GRANTHAM.

DURING the past 12 months we have been passing through an extensive epidemic of scarlet fever in the borough of Grantham. Our estimated population is 17,929 and the area of the borough (1677 acres) is sufficiently small to have enabled me to obtain a very close and intimate knowledge of the various relationships which have existed amongst the patients affected. I have been for 18 years medical officer of health of the borough and during all this time, although our methods of dealing with the infection of scarlet fever until recently have not been drastic, the patients being isolated as far as possible in their houses, previously to the present epidemic I have only known of one instance in which a "return" case occurred—that is to say, a fresh case occurring in the same house after the recovery and disinfection of the patient and the premises.

During the present epidemic 331 cases have been notified. We have isolated 217 cases in hospital and have employed a nurse to assist in the isolation and subsequent disinfection of those patients who remained at home. Indeed, all ordinary precautions were taken, but still the disease continued to spread, and after much careful investigation I came gradually to be sure that this was due to some means other than those generally accepted. In the light of recent investigation my attention was naturally drawn to the possibility of infection being conveyed by means of those patients who had apparently recovered, and I have been forced to the conclusion that the infection may in certain cases remain in the patient very much longer than has been generally supposed. According to my investigations there were 19 cases which, after apparently complete recovery and disinfection, gave rise to 28 other cases, and I have reason to suspect that not a few others were due to this cause. It is also evident that this persistency of infection was not confined to patients treated in hospital, for three at least of these "infecting" cases were treated at home. Comparing these results with my previous experience, it appears necessary to presume that this persistence of infectivity may exist in some epidemics and not in others. The following cases testify to my conclusions as previously expressed:—

Alfred P——, taken ill on Nov. 28th, 1905; treated at home. Sidney P——, admitted to hospital on March 2nd, 1906; discharged on April 23rd.

Florrie B——, taken ill on Nov. 25th, 1905; treated at home. Winifred B——, admitted to hospital on Jan. 17th, 1906; discharged on March 1st. Doris B——, admitted on Jan. 17th; discharged on Feb. 24th. Cecil B——, admitted on Jan. 23rd; discharged on March 28th.

Dorothy S——, admitted to hospital on Dec. 13th, 1905; discharged on Jan. 28th, 1906. Horace S——, admitted on Feb. 27th, 1906; discharged on April 18th.

Cicely C——, admitted to hospital on Dec. 14th, 1906; discharged on Jan. 31st, 1906. Clara C——, admitted on Feb. 4th, 1906; discharged on March 16th. Winifred C——, admitted on Feb. 4th; discharged on March 21st.

Edith P——, admitted to hospital on Dec. 18th, 1906; discharged on Feb. 14th, 1906. Hilda P——, taken ill on Feb. 25th, 1906; treated at home.

Elenor U——, admitted to hospital on Jan. 20th, 1906; discharged on March 15th. John U——, admitted on March 22nd; discharged on May 22nd.

Cecil A——, taken ill on Feb. 7th, 1906; treated at home. Daisy A——, taken ill on March 31st, 1906; treated at home.

Teddy W——, admitted to hospital on Feb. 6th, 1906; discharged on April 7th. Leonard W——, admitted on Sept. 2nd; discharged on Oct. 15th.

Hilda P——, admitted to hospital on Feb. 8th, 1906; discharged on March 26th. Winifred P——, admitted on March 30th; discharged on May 12th. Ivy P——, admitted on March 30th; discharged on June 16th. George P——, admitted on April 6th; discharged on May 5th.

Annie M——, admitted to hospital on July 21st, 1906; discharged on Sept. 9th. Sarah M——, admitted on Sept. 14th; discharged on Oct. 26th.

George K——, admitted to hospital on Feb. 11th, 1906; discharged on April 18th. Elsie K——, admitted on April 25th; discharged on June 18th.

Elenor A——, admitted to hospital on March 16th, 1906; discharged on May 10th. Ernest A——, admitted on May 15th; discharged on July 2nd.

Willie D——, admitted to hospital on April 21st, 1906; discharged on June 11th. Arthur D——, admitted on August 3rd; discharged on Sept. 18th. Louie D——, admitted on Oct. 20th.

George C——, admitted to hospital on May 28th, 1906; discharged on July 13th. Florence C——, admitted on Oct. 27th; discharged on Nov. 23rd.

John T——, admitted to hospital on July 29th, 1906; discharged on Sept. 12th. George T——, admitted on Oct. 8th; discharged on Nov. 19th.

Rose B——, admitted to hospital on August 11th, 1906; discharged on Sept. 22nd. Charles B——, admitted on Oct. 9th; discharged on Nov. 23rd. Bertie B——, admitted on Oct. 9th; discharged on Nov. 26th.

Charles C——, admitted to hospital on August 21st, 1906; discharged on Oct. 22nd. George C——, taken ill on Nov. 9th; treated at home.

Hilda H——, admitted to hospital on Oct. 9th, 1906; discharged on Nov. 14th. Edith H——, admitted on Nov. 24th. Martha H—— and Mabel H——, admitted on Dec. 2nd.

Edith O——, taken ill on Nov. 25th, 1905; treated at home. William O——, admitted to hospital on Oct. 29th, 1906; discharged on Dec. 4th.

If the dates of these cases be carefully noted it is surprising to find how long an interval elapsed in some instances after the recovery of the "infecting" case before the development of the disease in the "return" patient. I have been at some pains to eliminate the possibility of fresh infection occurring in these cases. Indeed, in the last case mentioned the time interval seems to be almost incredibly long. But if the infection may persist for some two months why may it not persist longer? The prolonged infectivity of a gleet after a gonorrhœa is recognised as existing for an unknown length of time, and I am inclined to the belief that the scarlet fever infection may similarly persist, lodged possibly in some of the nasal chambers, and that, moreover, it may lie dormant for some time until some suitable condition may render it capable of transmission. I have not a few instances amongst my recorded cases which afford evidence very strongly confirmative of this opinion. I am also inclined to the view that in some of those instances constantly referred to in our text-books, when the poison is presumed to have been harboured in infected garments for a length of time, the spread of the infection may not improbably be due to the harbouring of the infection in the convalescent patient rather than, as has been presumed, in the infected garments.

I ought to add, for our credit's sake, that of the 217 cases isolated in our hospital up to the present time, though there have been many serious cases with grave complications, we have discharged 201 with no deaths, whereas amongst the 114 cases isolated in their own homes there have been three deaths.

Grantham.

A CASE OF DERMOID CYST IN THE RAMUS OF THE JAW.

BY N. J. F. VAZIFDAR,
SIR JAMSETJI JEEJEEBHOY HOSPITAL, BOMBAY.

THE patient, a Hindu woman, aged 22 years, was admitted into Sir Jamsetji Jeejeebhoy Hospital on Feb. 1st, 1906, for a tumour in connexion with the right ramus of the mandible. The history of the case was that the tumour—which was evidently of a longer duration—was first noticed about four years back as a hard round mass of the size of a small marble near the temporo-maxillary articulation. There was a previous history of a fall from a staircase when the patient was two years old. The accident was a severe one and the patient had hæmorrhages from the mouth, the ears, and the nose. The growth had been quite painless and did not at all interfere with the movements of the joint. It increased very slowly and gradually to its size when seen; it was then three inches in diameter. There were no constitutional effects, the patient keeping excellent health all the time and only seeking advice because of the disfigurement. For the last six months the tumour—perhaps owing to its size—somewhat interfered with the movements of the joint, the jaw could not be opened to its fullest extent, and the tumour was somewhat painful on manipulation. It was smooth, hard, and irregularly round. Its upper limit reached as high as the zygoma and its lower one was at the level of the lower margin of the body of the mandible; anteriorly it came in front of the anterior border of the masseter muscle, whilst posteriorly it approached the posterior border of the ramus. It was firmly fixed to the bone and the skin over it was moveable. There were neither any signs of inflammation nor any implication of the overlying soft parts which were only tightly stretched over the tumour. There were no enlarged glands. Eruption of all the teeth was normal and there had never been any tooth trouble.

All the usual dental tumours being excluded by the normal

eruption and sound condition of all teeth and by the fact of the tumour first appearing at the temporo-maxillary articulation and thence extending downwards, the case was diagnosed as probably one of myeloid sarcoma, and an operation was performed by Lieutenant-Colonel W. H. Quicke, I.M.S., senior surgeon of the hospital. An exploratory incision was first made when the ramus was seen to be expanded from within. The bone being cut open with a chisel and hammer a cyst was revealed filled with soft epithelial-like flakes. The flakes were all removed and the cyst wall, which was partly adherent to and lining the bony cavity, was thoroughly scraped off and removed. The cyst growing inside had also to some extent expanded the body of the mandible where one of the fangs of the third molar was seen. The fang was quite normal. The bony cavity was then cleaned and stuffed with iodoform gauze, and it finally healed by granulation, the healing taking a long time, and the patient was ultimately discharged cured on June 14th.

The case is of interest on account of the unusual site selected by the dermoid. A dermoid within the structures of a bone and at a place where during embryonic life there is no union between two skin-covered surfaces is a surgical anomaly and one which I venture to explain as follows. At birth the mandible is a mere shell of bone containing the sockets of the temporary teeth and covered by the mucous membrane of the gums. Probably by some accident—and perhaps due to the very accident above referred to—a portion of the mucous membrane got into this shell-like bone and remained confined therein, only awaiting some irritation to determine its development into a cyst in the same way as the other so-called implantation dermoids are formed. Another marked feature of the case was the difficulty experienced in diagnosis. The only diagnosis which could be arrived at was that of a myeloid sarcoma, and indeed the appearance of the tumour was quite typical of that disease. The cyst growing inside had expanded the bone in the fashion of a myeloid sarcoma, and in fact there was some obscure sensation of egg-shell crackling at one part of the tumour. The hardness and innocency of the tumour were accounted for by assuming that the sarcoma had undergone a happy termination, viz., ossification, and indeed chondrification and ossification of sarcoma are not uncommon.

I am indebted to Lieutenant-Colonel Quicke for permitting me to report this case.

Bombay.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

TWO CASES OF INJURY OF THE HEAD IN CHILDREN.

(Under the care of Mr. H. A. T. FAIRBANK.)

CASE 1. *Traumatic subdural hæmorrhage without any lesion of the skull.*—The patient was a healthy girl, aged one year and nine months. On May 19th, 1906, at 11 A.M. she fell off a chair on to her head. For 15 minutes she seemed all right and ate some bread and butter, then "the eyes became fixed" and she rapidly became unconscious. At 2.30 P.M. she became convulsed on the right side, the head being turned towards the left shoulder. On admission to the Hospital for Sick Children at 3.30 P.M. there was twitching of the right arm and leg and the right side of the face The head and eyes deviated to the left. The pupils were dilated, equal, and did not react to light. Twitching was soon followed by paralysis of the whole of the right side. There was slight response to pinching but the deep and cutaneous reflexes were absent. With the onset of paralysis the pupils became smaller and remained equal. There was no squint. The pulse was 110 and the temperature was 97° F.

At 4.15 P.M. the skull was trephined over the left middle meningeal artery and the hole enlarged backwards. There was no extradural hæmorrhage. The dura mater bulged tense and blue into the opening and on incising it there was a gush of thin unclotted blood which continued to flow for some minutes and then ceased. The right arm was immediately moved voluntarily and the leg movements soon returned. No bleeding point was found and the wound in the dura mater was closed except for a small gauze drain. Within an hour of the operation the child was quite conscious and there was no trace of paralysis. The dressings were repeatedly soaked with cerebro-spinal fluid in spite of the head being raised. At 11.30 P.M. the temperature had risen to 103°, the respirations were fast and irregular, and the pulse was feeble and rapid. About 6 A.M. on the following morning, as the child was unconscious, the gauze drain was removed and some dark blood escaped. The child died at 7.30 A.M.

Necropsy.—At the post-mortem examination no fracture of the skull, gross lesion of the brain, or rupture of blood-vessels was found. There was a marked scarcity of cerebro-spinal fluid and between the dura mater and the brain on the side of the operation was a thin film of blood—quite insufficient to produce symptoms.

CASE 2. *Fracture of the skull with cerebral symptoms.*—A boy, aged four years and three months, was admitted to the Hospital for Sick Children on August 1st, 1906. 20 minutes before admission he fell off the steps of a tramcar on to the street, a height of about six feet, landing on his head. He seemed dazed by the fall, but did not lose consciousness and was able to walk. Ten minutes later the left arm and left side of the face were noticed to twitch and later the right side also twitched. He vomited and became drowsy and was at once taken to the hospital. On admission he was quite unconscious and was having clonic convulsions of all the limbs and face as much on one side as on the other. Ten minutes later the convulsions had entirely passed off and the limbs were quite flaccid. The breathing was stertorous. The pupils varied constantly in size, being at one moment dilated, at the next contracted, but always remaining equal. The pupils reacted sluggishly to light. The head and eyes deviated first to one side and then to the other. There were no facial paralysis and no squint. The knee-jerks were present and a flexor response was obtained in the right foot but none in the left. There was a hæmatoma above the right ear. No depressed fracture was made out.

Operation was performed about 50 minutes after the accident. No anæsthetic was given during the initial stages of operation. A little chloroform was administered later. A flap of scalp was turned down above and in front of the right ear. A fissured fracture was found running horizontally backwards from the external angular process of the frontal bone and extending beyond the limits of the wound which measured two and a half inches across. There was no depression of fragments. The skull was trephined just below the anterior part of the fissure. There was no extradural hæmorrhage and the dura mater pulsated feebly. On enlarging the trephine hole backwards a local bulging of the dura mater, somewhat dusky in colour, was exposed. A small incision was made through the dura mater at this spot but no blood was found within reach of the puncture. The dura mater was closed by a couple of stitches and the flap sutured in place. After the operation the boy was restless and even violent, but after about seven hours he regained consciousness. From that time he made an uninterrupted recovery.

Remarks by Mr. FAIRBANK.—Grave cerebral symptoms which are the result of traumatism and which call for surgical interference are so rarely met with in children that the above cases seem worthy of publication. In the first case the indications for treatment were sufficiently clear, though want of experience of such injuries in young children rendered the diagnosis of the source of the blood doubtful. The disappointing termination after the symptoms had been entirely relieved by operation was probably the result of the loss of cerebro-spinal fluid. Yet it did not seem to be a wise procedure to close the dura mater entirely without drainage, since the source of the hæmorrhage had not been discovered. The procedure was justified by the occurrence of the second small hæmorrhage. The result of the post-mortem examination showed that it would have been useless to hunt for the ruptured vessel.

In the second case the localisation of the lesion would have been difficult but for the presence of the hæmatoma over the right motor area, the region of the brain which the symptoms seemed to indicate as involved in the injury. The operation only revealed the presence of a

fissured fracture, so the cause of the cerebral symptoms must be left in doubt. The presence of minute hæmorrhages into the cerebral cortex may be suggested as an explanation. Since the incision made in the dura mater was minute and the hole in the skull not very extensive, it is difficult to see how intracranial tension can have been relieved to any extent by the operation. Unless the trephining did some good in this way it necessarily follows that probably the child would have recovered with equal rapidity had nothing surgical been done.

LIVERPOOL WORKHOUSE HOSPITAL.

RUPTURE OF THE SPLEEN; SPLENECTOMY; RECOVERY.

(Under the care of Dr. W. ALEXANDER.)

FOR the notes of the case we are indebted to Mr. John T. Moore, resident medical officer.

The patient, aged 34 years, a labourer and an ex-soldier, was admitted into the Liverpool workhouse hospital on August 5th, 1906, complaining of pain in the left side of the abdomen. He stated that upon the night before admission, while under the influence of drink, in the course of a row with another man, he fell over a form and hurt his side. After the injury he went to bed and slept. The next morning he arose at the usual time and went to his work, which consisted in wheeling a heavy barrow. He commenced work at 5 A.M. and struggled on till noon. During this time he felt bad and had two pints of beer, part of which he vomited. He then sought admission to the hospital.

On admission the patient complained of severe pain in the left hypochondrium. His temperature was normal. There were no signs of injury or fracture of the ribs. Opium stupes were ordered and later he said that he felt better and slept fairly well. On the evening of the next day, August 6th, the pain in his side became intense; he vomited three times, his respirations became frequent and chiefly thoracic, the pulse was small and frequent, and the temperature fell to 97·6° F. The abdomen was retracted and the liver dulness was apparently diminished. It was evident that some serious internal injury existed. An exploratory operation was proposed and agreed to by the patient. The abdomen was opened at 8.30 the same evening by a median incision. The left hypochondrium was found full of blood clot and the spleen ruptured. The vertical incision was now prolonged to the left just below the costal margin. The blood was confined to the left hypochondrium and the colon was distended, which accounted for the diminished liver dulness. Bright blood was gushing up from the left. The spleen was at once brought into view, having to be scraped off the parietes owing to old adhesions. It was found to be surrounded by firm clots and to be ruptured in two places. The pedicle was clamped, the spleen was excised, the stump ligated, and the blood clot was removed. The patient at this stage became extremely collapsed. An intravenous injection of 30 ounces of normal saline solution containing one drachm of 1 in 1000 adrenalin solution was given by Dr. R. Donaldson whilst the operation was rapidly completed. After the removal of blood and clots the cavity was swabbed out with saline solution containing adrenalin, and as there was some oozing and the patient was much collapsed the large cavity was packed with sterile gauze and two large gauze drains in split rubber tubes were placed in the lower corner of the wound. The incision in the abdominal wall was closed in the usual three-tier way. He was removed to bed, the lower end of which was well raised. He had small rectal salines and fluids by the mouth every two hours, strychnine hypodermically ($\frac{1}{30}$th of a grain) every four hours, and $\frac{1}{4}$th of a grain of morphine to check the intense restlessness. The temperature remained at 97° and the pulse was very small, 130 during the night. The shock continued to a considerable extent all the next day, the pulse being from 130 to 136. At 4 P.M. the temperature rose to 100·4°, gradually coming down to normal towards morning. The patient was fed with small quantities frequently, meat juice, beef-tea, chicken broth, and egg flip alternately, and four-hourly rectal nutrients were administered. On the 8th the shock had passed off, the gauze and drainage tubes were removed, and small gauze drains were applied. During the day he vomited three times and the bowels were moved; at night he had a troublesome cough which was relieved by jacket poultices and a steam tent. On the 9th his condition was about the same. On the 10th the wound was again dressed. Vomiting had ceased, but the cough was troublesome. Bronchitis was present all over the chest and there was friction at the right base posteriorly. The temperature went up to 101°. From this date the patient's condition improved daily: his chest cleared up, the temperature became normal, the wound was dressed every second day, and the convalescence was uneventful except for another attack of pleurisy and bronchitis which lasted for about a week. A blood count early in October showed 3,967,480 red cells and 6758 white cells per cubic millimetre. The patient went to town quite well on Nov. 20th.

The spleen was a shade larger than usual at the time of removal; it was somewhat collapsed and there were two holes in its surface through which blood was seen oozing before the pedicle was clamped.

Remarks by Dr. ALEXANDER.—There are several points in this case that are of interest to the profession. The history of the case, though not reliable owing to the partial intoxication of the patient, points to a fall over a form and the injury to the spleen would probably not have occurred but for the adherent condition of that organ. Its convex surface was fixed to the diaphragmatic peritoneum and had to be peeled off by the fingers at the operation. It could not move to avoid the crush and so was injured when a moveable spleen would probably have escaped. Again, the hæmorrhage was at first undoubtedly inside the capsule and had the patient been able to rest it might never have gone beyond that position. But after a good night's rest he had to get up and work "wheeling a barrow." Even when he came into hospital the same afternoon he was not in an alarming condition, nor did he show urgent symptoms until the next morning. The rupture of the splenic capsule probably did not take place until some time after he was in bed in the hospital, as at the operation the blood was entirely confined to the left hypochondrium. This would hardly have occurred had bleeding been going on whilst the patient was moving about, as blood would in that case have trickled down into the lower abdomen. It was especially noticed that this had not occurred.

The next point is that we did not operate on account of a ruptured spleen. We did not know what had taken place but the symptoms indicated grave internal lesions and the operation was at first exploratory only. The retraction of the abdomen and the lessened liver dulness pointed rather to an injury of a hollow viscus than of a solid organ. The collapse, the rapidly failing pulse, the shallow breathing, &c., all called urgently for an exploration, and as an exploration in itself is not dangerous, nor does it add materially to the gravity of the case, we performed it, although we had no idea at the time of the nature of the injury.

An important point in the case is the great and manifest value of adrenalin and saline transfusions. After the spleen was removed the condition of the patient became alarming, and the feeling of my anæsthetist and of some of my assistants was that the patient was dying. Dr. Donaldson rapidly inserted the transfusion needle into the usual vein in the arm and passed one drachm of adrenalin solution mixed with one and a half pints of normal saline solution into the circulation. The effect was immediate and enabled me to finish the operation satisfactorily. The value of adrenalin was also shown in its effect on the oozing from the bleeding surfaces from which the ruptured spleen had been removed. The oozing ceased as if by magic when we pressed on the bleeding surface gauze soaked with adrenalin solution, and we were then able to place our gauze drains in position comfortably.

On August 10th I left for Canada and Mr. Moore took entire charge of the case. The credit of piloting the patient through various pulmonary complications is entirely due to his care and skill. When I came back the patient was convalescent, his blood count was practically normal, and there were no signs that such an important organ had been removed.

PRIVATE ASYLUMS FOR THE INSANE IN ST. PETERSBURG.—At a recent sitting of the St. Petersburg town government it was decided to make an experiment by subsidising private homes to the initial extent of £1000 for patients of weak mind, so as to relieve the pressure on the hospitals. Although some members argued that the step was calculated to encourage "angel making" the decision was given in favour of the argument of others who held that there were many wholly trustworthy people to whom the care of insane persons might be given.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Demonstration on the Spirochæta Pallida.—A Note on the Pathology of Syphilis.—Observations upon Cheyne-Stokes Respiration.

A MEETING of this society was held on Jan. 8th, Mr. W. HARRISON CRIPPS, a Vice-President, being in the chair.

Dr. ALEXANDER MACLENNAN gave a demonstration on the Spirochæta Pallida. He said that it could not be definitely settled that the organism was the infective agent in syphilis. This could only be done by successful cultivation and inoculation. He could, however, accentuate the following points: 1. The organism had not been found in experimentally infective material. 2. It was admittedly scarce in the surface discharge in primary and secondary lesions, possibly because the organism was anaerobic. 3. Congenital syphilis was considered to have a low infective power while its lesions teemed with spirochætæ. On the other hand, the infectivity of the tertiary lesions was more in conformity with the numbers of spirochætæ present. 4. Smaller forms which were related to the spirochætæ were invariably present in preparations from the lesions. He did not consider that there were sufficient data to accept definitely the spirochæta pallida as specific, but he accepted its presence as diagnostic of syphilis. This might seem rather paradoxical, but the explanation was that the spirochæta pallida was only one phase in the life cycle of the infecting organism. He then demonstrated by means of lantern slides the various stages and the method of reproduction. Two methods were described, one by longitudinal division and the second by the formation of "buds." These two methods might occur in the same spirochæta. He then demonstrated the life cycle of the organism.

Mr. J. JACKSON CLARKE read a preliminary note on the Pathology of Syphilis. He said that the object of his communication was to call attention to the connexion between the spirochæta pallida described by Schaudinn in 1905 and the protozoa in syphilitic lesions which he described ten years ago. Those acquainted with the commoner parasitic protozoa would recognise the striking resemblance of these bodies to such protozoa. Diagrams were shown illustrating this resemblance. Mr. Clarke believed that the bodies which he had described in 1895 were homologous with the "gregarinoid" phases of the spirochæta Ziemanni as described by Schaudinn. The gregarine-like bodies occurred in such great numbers and were distributed in the lesions of syphilis in such a way that the causal relationship of the mobile spiral forms (spirochæta or spironema) to the disease must remain doubtful unless they could be shown to be members of the same cycle that also included these gregarine-like forms.

Dr. FREDERICK TAYLOR said that he, in conjunction with Dr. M. S. Pembrey, Dr. A. P. Beddard, and Dr. Herbert S. French, had made certain observations on two cases of Cheyne-Stokes Respiration. The first case was one of typical Cheyne-Stokes respiration lasting almost continuously for over six months in a patient who was proved by necropsy to be suffering from chronic renal disease, and in whom Dr. E. Farquhar Buzzard had examined the pons and medulla microscopically and had found many foci of softening around sclerosed arteries. The second case had equally typical Cheyne-Stokes respiration following upon injuries received in a lift accident; he recovered so that the precise lesion was not verified. In each case, amongst other investigations, the effects of giving the patients (1) pure oxygen; and (2) air containing high percentages of pure carbon dioxide, were recorded graphically. The supply of oxygen and of carbon dioxide respectively was controlled by a tight-fitting mask with appropriate valves. The periodic was converted into the continuous respiration in both cases by the administration either of excess of oxygen or of excess of carbon dioxide. The conclusions which were submitted for discussion were—That apparently the periodicity of Cheyne-Stokes respiration was in great part due to a diminished excitability of the nervous system associated with a defective supply of arterial blood; the carbon dioxide accumulated and the oxygen diminished until at last the nerve cells were stimulated, the waxing respirations began and culminated in hyperpnœa whereby a large quantity of carbon dioxide was washed out and sufficient oxygen was taken in; apnœa followed, due apparently to the absence of sufficient carbon dioxide to stimulate the nerve cells. That the inhalation of air containing more than 2 per cent. of carbon dioxide abolished apnœa by maintaining the partial pressure of the carbon dioxide in the alveolar air and blood at its stimulating value. That the administration of pure oxygen by means of a mask and valves abolished apnœa by maintaining the partial pressure of carbon dioxide in the blood at its stimulating value; the respiratory centre was no longer excited by lack of oxygen to send out the forcible impulses which had previously resulted in excessive ventilation of the lungs whereby carbon dioxide had been washed out of the alveoli and lungs.

Dr. M. S. PEMBREY said that he, in conjunction with Dr. G. Newton Pitt and Dr. R. W. Allen, had made observations upon Cheyne-Stokes Respiration. The patient was admitted under the care of Dr. Newton Pitt with aortic incompetence and a history of some temporary weakness of the right arm of doubtful origin some months previously. He shortly developed a slight left hemiplegia with marked Cheyne-Stokes respiration, which persisted for three months till the time of his death, on which Dr. Pembrey and Dr. Allen made many observations indicated below. There was also incontinence of urine which varied but never cleared up entirely. At the inspection there were found a large area of softening involving the region round the Sylvian fissure on the right side and degenerative changes in the vagal nucleus. Dr. Hoffmann insisted that persistent incontinence, of cerebral origin, was always due to bilateral cerebral lesions, but in this case the lesion was one-sided, though the incontinence was not so persistent as in the cases he referred to. It was found that the Cheyne-Stokes respiration could be controlled and abolished either by giving the patient pure oxygen to breathe, by increasing the amount of the carbon dioxide, or by diminishing the amount of the oxygen in the air respired, or by certain combinations of these proceedings. They concluded that the periodicity of Cheyne-Stokes respiration was due to a diminished excitability of the nervous system; the carbon dioxide accumulated and the oxygen diminished until at last the nerve cells were stimulated, the waxing respirations began and culminated in marked dyspnœa, whereby the carbon dioxide was washed out and a large quantity of oxygen was taken in; apnœa then followed, due apparently to the absence of sufficient carbon dioxide to stimulate the nerve cells. This view of the condition of the nerve cells of the respiratory centre was amply confirmed by the microscopic examination obtained after death—only a small proportion of the cells of the vagal nucleus having a normal appearance.

OBSTETRICAL SOCIETY OF LONDON.

Chronic Metritis.

A MEETING of this society was held on Jan. 2nd, Dr. W. R. DAKIN, the President, being in the chair.

Dr. ARCHIBALD DONALD read a paper on Chronic Septic Infection of the Uterus and its Appendages. Dr. Donald dealt chiefly with septic infection which involved the uterine appendages as well as the uterus. The cases in which the uterus was chiefly involved were discussed more fully. The clinical history and symptoms of these cases were considered and special attention was drawn to the discomfort or pain which was felt in the hypogastrium or iliac regions and which was so characteristic of a heavy uterus. In dealing with the pathology of chronic metritis the great divergencies of opinion as to the microscopic anatomy were noted. The three main theories as to the cause of chronic metritis were discussed—namely, (1) passive congestion; (2) inflammatory change; and (3) muscular hypertrophy. Reasons were given why the mere alteration in position of a healthy uterus was not likely to cause passive congestion and chronic metritis, but it was pointed out that the treatment by pessaries and suspension operations was founded on the assumption that a displacement did cause these changes. Dr. Donald objected to the use of pessaries and the performance of suspension operations for cases of mobile retroversion on the ground that these methods could never

cure the chronic metritis, which was at the root of most of the symptoms.

Dr. W. FLETCHER SHAW then gave a lantern demonstration and read a paper on the Pathology of Chronic Metritis. The conclusions arrived at in this paper were the results of the examination of 45 uteri extirpated for chronic metritis, 38 being uncomplicated cases, while seven occurred with some concurrent pathological condition. For the purpose of comparison 23 normal uteri were also examined. The main results arrived at were as follows. Chronic metritis was a simple hypertrophy of the mesometrium and was not a connective-tissue hyperplasia. The vessel changes were variable, and as similar affections were as frequently found in normal uteri they could not be considered as the cause of the symptoms. Except two cases, which could be easily explained, every specimen of uncomplicated chronic metritis also suffered from chronic endometritis. There was no evidence of active inflammation, as shown by small-celled infiltration or cicatricial tissue. Chronic metritis was a slowly progressing affection of the uterus. It was never a primary affection, being usually secondary to chronic endometritis, but might be associated with any pelvic or uterine disease leading to increased uterine contraction or vascularity—viz., fibroids, tubo-ovarian disease, &c. Chronic metritis occurred at a much earlier age than the menopause and thus proved that the climacteric was not the causal factor. The diagnosis of chronic metritis was largely dependent on the result of treatment. In the early stage of the affection all the symptoms disappeared after dilatation and curettage of the uterus, thus demonstrating that the endometritis was the primary cause. In chronic metritis and chronic endometritis local treatment of the endometrium might fail to relieve the symptoms. This was probably due to re-inauguration of the endometritis.

The PRESIDENT thanked Dr. Shaw for his valuable paper. It was an important step towards putting the study of so-called "metritis" on a scientific basis. The President used the term "so-called metritis" because so far as he could see there was nothing indicating inflammation in any of Dr. Shaw's sections or descriptions; in fact, both "metritis" and "endometritis" as used at present by many did not necessarily mean anything connected with inflammation. These terms, however, led students and others astray and ought to be reserved for inflammatory processes. He would appeal to both Dr. Donald and Dr. Shaw, as among the pioneers in this research, not to countenance such misuse of terms.

Dr. CULLINGWORTH, speaking of the papers by Dr. Donald and Dr. Shaw, said that the two authors, though both were Manchester men, had not worked in collaboration, but approached the subject independently, the one from a clinical, the other from a pathological standpoint; they had gradually become aware of each other's work and of the fact that the conclusions at which they had arrived were practically the same.

Dr. AMAND J. M. ROUTH said that no subject in minor gynæcology was more perplexing than that of chronic metritis. Did Dr. Donald and Dr. Shaw consider all their cases to be "septic" in origin? Were not some of them really of the type usually known as arterio-fibrosis of the uterus?

Dr. H. RUSSELL ANDREWS said he thought that Dr. Shaw deserved the thanks of the meeting for his clear demonstration of the fact that there were no characteristic histological changes in "chronic metritis." One reason why some gynæcologists were loth to accept chronic metritis as a clinical entity was that the slides and micro-photographs used to illustrate some papers on this subject showed changes in the muscle, connective tissue, and vessel walls which were said to be pathognomonic of chronic metritis though they differed in no way from what was seen in normal multiparous uteri. He thought that this was one of the most interesting points in a very interesting demonstration.

Dr. CUTHBERT LOCKYER expressed his hearty appreciation of Dr. Shaw's admirable and painstaking work upon the much vexed question of the pathology of so-called chronic metritis. He thought that the society owed a debt of gratitude to Dr. Shaw for his paper and demonstration which constituted the first really scientific attempt at evolving order out of chaos (as far as this subject was concerned) which had been presented for discussion at the Obstetrical Society of London. Dr. Lockyer particularly noted that Dr. Shaw's series of cases did not include one type of uterus in which he himself was especially interested and to which attention had been drawn by Dr. J. R. Goodall at the meeting of the British Medical Association at Toronto in August, 1906—viz., the arterio-sclerotic uterus. Attention had been drawn to this condition not only by Dr. Goodall but by Dr. A. H. Freeland Barbour in a paper entitled "Climacteric Hæmorrhage due to Sclerosis of the Uterine Vessels,"[1] and, as that writer states, the only remedy for the hæmorrhage was removal of the uterus. Dr. Lockyer cited a similar case from his own practice at St. Mary's Hospital, Plaistow, and it was surprising to him that in such an extensive research Dr. Shaw had not met with this condition. Dr. Lockyer would therefore like to hear from Dr. Shaw whether he regarded every case of so-called chronic metritis as of infective origin, or if he would admit the entity of a primarily arterio-sclerotic uterus occurring independently of any source of infection from without.

Dr. FRANK E. TAYLOR said that he had been much impressed by two points during the routine pathological examination of a considerable number of uteri, similar in character to those described by Dr. Donald and Dr. Shaw, which had been removed on account of excessive and intractable hæmorrhage. The first point was the extreme variability of the histological findings presented by the various specimens examined, some uteri presenting histological features which differed very slightly from those of normal uteri, whilst others presented most striking changes, especially as regards the thickness of the vessel walls in the myometrium. All intermediate stages were likewise observed. The second point was the lack of a normal standard with which to compare the conditions found in chronic metritis—as to what amount of thickening of the vessel walls in the myometrium could be considered pathological and as to the significance of the relative proportion of fibrous to muscular tissues present, along with the difficulty of definitely ascertaining this proportion. Both Dr. Donald and Dr. Shaw had laid great stress on the importance of infection as a causative factor in the etiology of chronic metritis and had mentioned the frequency with which the symptoms dated from a confinement or miscarriage presumably septic. Now gonococcal was probably as frequent as puerperal infection of the pelvic viscera. Hence it might have been expected, if infection were really an important factor, that a history of gonococcal infection would have been present in a certain proportion of the cases, but of such a possible origin neither Dr. Donald nor Dr. Shaw made any mention.

Dr. DONALD and Dr. SHAW replied.

LIVERPOOL MEDICAL INSTITUTION.

Duodenal Ulcer.—Operations during Typhoid Fever.—Lymphatic Leukæmia.—Forgotten Medical Worthies.

A MEETING of this society was held on Dec. 20th, 1906, Mr. FRANK T. PAUL, the President, being in the chair.

Mr. G. P. NEWBOLT read notes of a case of Perforating Duodenal Ulcer complicated by Abscess of the Lung in a male patient, aged 30 years, who had previously been in robust health. The treatment was by injections of polyvalent serum. Frequent attempts were made to localise the abscess with exploring needles; the abscess eventually emptied itself, on some days from a pint to a pint and a half of pus being expectorated. Finally the patient made a good recovery. The organism isolated conformed to the type of streptococcus termed streptococcus salivarius by Andrewes and Horder.

Mr. W. THELWALL THOMAS read notes of two cases of Surgical Operations during the Course of Typhoid Fever—one for perforation and one for appendicitis—both of which terminated in recovery. He drew attention to the fatal character of perforation unless surgically treated, when the recovery rate was 30 per cent. or more. Although in many cases the diagnosis was uncertain it would be wiser to explore (under local anæsthesia) than to wait until general septic peritonitis had set in. The treatment of the perforation by quick suture or the formation of a fæcal fistula appeared to be the two alternatives—fancy work such as enterectomy with end-to-end anastomosis was not to be recommended; enterostomy had the further advantage of draining the typhoid intestine and keeping it at rest. The first patient was a man who had been walking

[1] Scottish Medical and Surgical Journal, June, 1905.

about until a few days before symptoms of perforation occurred; the case was diagnosed as perforative appendicitis and was immediately operated upon with the result that a typhoid perforation was found. The second patient was a young woman in the third week of typhoid fever; though a provisional diagnosis of perforation was made at the operation acute appendicitis was found. Mr. Thomas briefly described two other previous cases in which he had operated for typhoid perforation without being able to save the patients' lives.—The PRESIDENT referred to two cases: one illustrating the difficulty of making a certain diagnosis in typhoid perforation; in the other a perforation 12 inches from the cæcum occurred three months after the onset of typhoid fever. In the latter case the ulceration was so extensive that the perforation could only be closed by excising it and the patient died nine days after the operation.—Mr. T. C. LITTLER JONES mentioned a case which he had operated upon successfully last July. A lascar boy was taken to the Liverpool Infirmary at the end of the second day after perforation of a typhoid ulcer. Simple suture of the ulcer was performed and the abdomen was cleaned of intestinal contents. The boy was transferred to his ship three weeks afterwards. Perforation was rare in Hindus and the infection was comparatively slight.—Mr. R. W. MURRAY said that better results from operative interference would probably be obtained if, as a general rule, the bowel at the point of perforation was brought to the surface and a fæcal fistula temporarily established. Such an operation could be quickly performed and would have the great advantage of permitting the inflamed bowel to rest.

Dr. R. J. M. BUCHANAN read a paper on Acute Lymphatic Leukæmia. He drew attention to the rarity of the disease and said that in its symptom complex it resembled in many ways an acute specific fever. The blood picture was one quite different from that seen in myeloid leukæmia and was due to a hyperplasia of definite cell elements. The features of the disease were illustrated by an acute case of nine days' duration in which the symptoms pointed in the later stages, on the one hand, to a morbid state of the blood and, on the other, to an acute abdominal lesion, most probably hæmorrhage into the pancreas. A blood count revealed a lymphocytosis of 528,000 per cubic millimetre. The case was under the care of Dr. C. R. Scholfield of Southport, to whom Dr. Buchanan expressed his thanks for the notes of the early condition.—The paper was discussed by Dr. E. E. GLYNN, Dr. W. CARTER, and Dr. H. R. HURTER.

Dr. A. CASSELS BROWN read a paper entitled "Two Forgotten Medical Worthies." The subjects of the paper were Dr. Gabriel Broughton and Dr. William Hamilton, both of whom played somewhat important parts in the early struggles of the "Company" in India.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Patients.

A MEETING of this society was held in the Edinburgh Royal Infirmary on Dec. 19th, 1906, Professor W. S. GREENFIELD, Vice-President, being in the chair.

Mr. J. M. COTTERILL exhibited the two following cases. 1. The Rare Condition of Lympho-Sarcoma occurring in the Lower Part of the Neck in a Young Man. He said that the diagnosis of such cases was difficult and that they were frequently mistaken for fibro-lipomata or tuberculous disease. The disease grew very quickly and irregularly; it also became adherent to the skin and other tissues without pain or inflammation and in both these respects it differed from tuberculosis. Tuberculosis of the glands usually began high up in the neck; this disease, however, usually commenced in the mediastinum or axilla and extended upwards to the neck. In the case described it occupied the lower portion of the neck on the left side and extended under the trapezius muscle. 2. A case in which Decompression for Brain Tumour gave great relief from the urgent symptoms. The patient was a man and the diagnosis was very difficult. A large piece of the frontal and parietal bones was removed for purposes of diagnosis. As it was impossible to remove the cerebral tumour, the bone was not replaced, thus allowing of a large hernia of the brain. This relief of pressure had afforded the patient great comfort, the intense headache from which he formerly suffered having disappeared and the sight in the left eye having undergone improvement; photophobia, which formerly was present, had disappeared. Mr. Cotterill referred to another case in which he had removed a portion of bone with the result that a large hernia of the brain of the size of the two fists had formed. This gradually became absorbed and at the present time, eight years after the operation, the patient had only a depression in the skull and had almost completely recovered from his former condition.

Dr. ALEXANDER BRUCE showed a man suffering from Primary Progressive Myopathy. The condition was in the family and a brother of the patient suffered much in the same way. The muscles of the back and the gluteal muscles were so weak that the man had to throw his shoulders far back, so placing his centre of gravity well behind his feet. The most peculiar feature of the case lay in the marked atrophy of the muscles of the proximal parts of the arms and lower extremities. The hands remained almost as strong as ever and so did the muscles of the forearm, but the upper arm was very weak; the biceps was atrophied and he possessed very slight power of flexing his elbow-joint. In the right arm certain fibres of the triceps were well developed. There was a marked atrophy of the clavicular fibres of the pectoral muscles and there was a certain degree of alar winging. The thigh resembled the upper arm in the atrophy of its muscles, but the calves were very well developed, as were the mucles of the forearm.

Dr. R. CRANSTON LOW showed a case of Keloid Acne which had undergone great improvement after 12 exposures to the x rays during six months.

Mr. H. ALEXIS THOMSON showed a man, aged 45 years, after Incision and Drainage of a Mesenteric Cyst. It contained semi-fluid material of the colour of *café au lait* with fat droplets and cholesterine. The cyst wall was partly calcified. The operation was performed three years ago and a sinus was still present.

Mr. C. W. CATHCART showed a patient after removal of the Gasserian Ganglion for Epileptiform Neuralgia. The patient, who was a woman, 35 years of age, was admitted to the Edinburgh Royal Infirmary on Nov. 4th, 1906, on account of severe epileptiform neuralgia on the right side of the face, head, and neck. The symptoms began about three and a half years ago by a pain in the lower jaw, coming on in spasms. After these had continued for about a year and had gradually increased, she was admitted on account of the pain to a hospital, where an operation was performed on the side of the neck. Portions of the cervical nerves supplying the face and neck were excised as the pain seemed to be most felt in the distribution of those nerves. The patient declared that she was worse after this operation and that the pain extended into the region of the upper as well as into the lower jaw. The teeth in both sides of the upper jaw were removed with no improvement. The teeth in the lower jaw were then also removed but without benefit. Portions of the supra- and infra-orbital, and mental nerves were then excised and for a month the patient was free from pain. It afterwards, however, returned and was only partially relieved by morphine, strychnine, bromide, and quinine. In October, 1906, she was under Dr. Byrom Bramwell's care for a fortnight and the hypodermic injection of strychnine in gradually increasing doses was tried but without avail. On going home after leaving the infirmary she was attacked by the pain with renewed vigour and was taken into the surgical side as no further medical treatment seemed available. She was fairly well for about a week but after that time the pains returned with terrible severity and her condition became pitiable. The whole ward was disturbed by her cries night and day in spite of large doses of morphine. The operation for removal of the ganglion was undertaken on Dec. 5th by Cushing's median direct method. A horseshoe incision was carried from the external angular process of the frontal bone to a point just in front of the ear. The skin flap was thrown down, the zygoma cleared of periosteum and removed, as well as a portion of bone in the temporal fossa extending from a little below the level of the anterior inferior angle of the parietal bone to a little below the infra-temporal crest. The brain and dura mater were lifted up and the ganglion was seized with forceps after having been freed from its sheath of dura mater. The superior maxillary division of the fifth nerve was torn through while the ganglion was being separated from the dura mater. The ophthalmic division of the fifth nerve was divided with scissors just as it left the ganglion and the inferior maxillary division of the fifth nerve was divided. In being twisted out the ganglion gave way where it was joined by the sensory root, but the latter had meanwhile been torn out of the pons and was easily removed after the ganglion had been taken away. The patient had made a

good recovery. She had had no pain in the head or neck, although the operation was performed in the middle of one of her bad periods. The regions of the distribution of the three divisions of the fifth nerve were now quite anæsthetic. It was noteworthy that in spite of the removal of portions of the three divisions of the fifth nerve, as well as of several branches of the cervical plexus to the head and neck, sensation had returned in all the regions which had been at first rendered anæsthetic by these operations.

Dr. EDWIN BRAMWELL showed an unmarried woman, aged 36 years, with very pronounced Weakness and Wasting of the Muscles of the Left Arm and Hand supplied by the seventh and eighth cervical and first dorsal spinal roots. There was some objective sensory loss in the corresponding distribution, while the left eye presented the oculo-pupillary syndrome which resulted from a destructive lesion of the cervical sympathetic. These symptoms had developed gradually three years previously and their onset had been accompanied by severe pains in the region of the left shoulder and the ulnar aspect of the forearm. At a later date paralysis of the right external rectus and of the right side of the face, together with deafness in the right ear, had developed. In addition there had been some paresis of the left lower extremity. The coexistence of two independent and probably extra-medullary lesions was suggestive of syphilis. A cutaneous scar presented characteristics of a healed luetic ulcer. The diagnosis was confirmed by the rapidity with which the cranial nerve palsied; the paresis of the left leg and the paresis in the left arm had yielded to anti-syphilitic treatment.

Dr. GEORGE MACKAY showed a miner incapacitated for work by Vertical Diplopia and wearing strong prisms nine months after a penetrating injury of the orbit by a piece of steel. The fragment was localised by the x rays and its removal was aided by Volkmann's magnet. The diplopia was practically removed by tenotomy of the superior rectus.

Dr. R. W. PHILIP showed a case of Extreme Dyspnœa successfully treated by means of Béraneck's tuberculin. The patient, who was a woman, aged 40 years, was sent to Dr. Philip's ward in the Royal Infirmary by Dr. John R. Hamilton of Hawick. She had been for four months in a sanatorium and had improved somewhat, having put on about 2 stones in weight. None the less she had remained extremely breathless, the dyspnœa being more or less constant and from time to time paroxysmally aggravated. The dyspnœic attacks were most formidable and sometimes threatened suffocation, especially by night. Examination of the chest showed, in addition to considerable areas of dulness, a large number of rhonchi. The symptoms and signs had suggested the probability of pressure by enlarged, presumably tuberculous, bronchial glands. On this hypothesis Dr. Philip had treated her with tuberculin, using Béraneck's preparation. Commencing with 0·1 cubic centimetre of 1 in 100,000 saline solution he had gradually passed to 0·3 cubic centimetre of 1 in 10,000, the tuberculin being administered at intervals of two or three days. After the first few doses the dyspnœa began to lessen and for the last 12 days the patient had been completely free not only from the paroxysms but from breathlessness altogether. Her nights were completely undisturbed. Examination of the chest showed it to be free from respiratory accompaniments.

Mr. JOHN W. DOWDEN demonstrated cases of Fracture about the Elbow-joint.

Dr. HARRY RAINY showed a case of Paralysis Agitans which exhibited several unusual symptoms.

Mr. JOHN W. STRUTHERS showed a patient after recovery from Chronic Intussusception with Inversion of the Vermiform Appendix.

Mr. A. A. SCOT SKIRVING showed two patients after operation for Ruptured Gastric Ulcer.

Mr. E. W. S. CARMICHAEL showed a child, aged two and a half years, whose Cæcum and Ascending Colon had been Resected 16 months previously for tuberculous stricture.

Mr. L. C. PEEL RITCHIE showed several cases of Surgical Tuberculosis treated by Tuberculin R.

Dr. G. A. GIBSON showed a case of Landry's Paralysis.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—A meeting of the Section of Obstetrics was held on Dec. 14th, 1906, Dr. R D. Purefoy, the President of the Section, being in the chair.—Mr. G. R. Seymour Stritch described a New Form of Pessary which, he said, supported the uterus, in a patient, aged 80 years, without pressing on an ulcerated cervix. The pessary was made in the form of a ring, supported by a vaginal stem, from the vulvar ends of which tapes were attached for fixation to a waistband. The ring could be hinged against its stem to facilitate its insertion and when in position it could be locked at the required angle to the stem. The uterus hung within the ring free of pressure irritation. The manufacturers were Messrs. Down Brothers of London.—Sir W. Smyly said that in two important points—namely, the joint and the waist attachments—Mr. Stritch's pessary was a distinct improvement on former ones.—Dr. Henry Jellett showed a Uterus affected with Cancer of both Cervix and Fundus. He said that cancer of the cervix was in the past considered to be one of the indications for supravaginal amputation of the cervix and he thought this specimen showed the untenable nature of such a position. The specimen was also a rare one, and Cullen in his work on cancer of the cervix only recorded half a dozen cases. Cases of cancer occurring at both the fundus and the cervix might be divided into two classes—namely, (1) those in which the two cancers were independent of one another; and (2) those in which it was possible to trace definite connexion. In the present case of a patient, about 54 years of age, he had operated for cervical cancer and had no reason to suspect fundal cancer. The first thing he saw on opening the abdomen was a slight adhesion of the intestines to the fundus. The operation was a fairly radical one and the patient unfortunately died from the shock 14 hours after. The operation had to be very extensive, on account of the necessity of taking away almost the entire upper third of the vagina. In the specimen a fine line of connexion could be seen between the two growths, and this presumably followed the lymphatics traversing the muscular wall from one growth to the other. The operation was performed by Werder's method, as described in Cullen's "Cancer of the Uterus."—The President said that the case reminded him of one that had been under his care, in which the uterus contained two varieties of cancer, one in the cervix and one deep in the tissue of the fundus, no microscopic or macroscopic connexion being between them. The disease in both localities was not very far advanced and the patient made a good recovery.—Sir W. Smyly presented a specimen of Ovarian Cyst. He said that the case showed all the characteristics of an ovarian tumour except that he could not isolate the uterus from the tumour. The uterus moved with the tumour and though he thought that it was ovarian in origin he could not make a positive diagnosis.—Dr. Alfred Smith showed a Vesical Calculus with a Nucleus consisting of Pedicle Silk. He said that about three months after the removal of a large ovarian cyst the patient began to suffer increasing pain during micturition and her medical adviser was satisfied that she had stone in the bladder. Her abdomen was so tender that it could not be palpated without an anæsthetic, but when the anæsthetic was administered he found the bladder filled with stone. Having crushed the stone and washed out the fragments he drew out by the urethra with the guidance of the finger and forceps, the ligature shown. The natural explanation of how the ligature got into the bladder would be that there was some inflammatory disturbance around the pedicle, but if such were present it would suppose some evidence of pain, but the only pain complained of was that already mentioned.—Dr. Robert J. Rowlette read, for Dr Richard J. Kinkead and himself, a paper entitled, "A Case of Labour Obstructed by Fibroid Tumour: Red Degeneration of the Tumour." The patient, a multipara, was admitted to the County Galway Hospital, having been 30 hours in labour; a globular tumour, four inches in diameter, was presenting at the vulva, apparently springing from the anterior lip of the os. As the tumour was very vascular Dr. Kinkead decided to deliver the patient before removing the tumour. Drawing the latter down and forward he applied forceps and extracted a living child. When the placenta came away he cut the pedicle of the tumour with an écraseur. The patient left the hospital quite well on the thirteenth day. The tumour was a typical example of "red degeneration," showing necrosis and congestion. The condition was comparatively rare and was in most cases associated with pregnancy. It usually gave rise to marked constitutional symptoms, such as pain, weakness, wasting, and gastric disturbances. Dr. Rowlette believed that the staining was due to a diffusion of the blood pigment consequent on a sudden necrosis of a congested tumour.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 2nd, Mr. T. Geraty being in the chair.—Dr. J. S. Bolton read a paper on the Treatment of Prostatic Congestion by Electrical Methods. In it he pointed out that although the functions of the prostate and its secretion were still imperfectly understood it might be taken as established that (1) urgent symptoms in cases of this sort were attributable to congestion in and about the prostatic urethra, and (2) although actual enlargement, whether glandular or fibrous, might exist in late middle life, the ultimate failure properly to empty the bladder depended on the loss of tone in the muscle-fibres common in old age. Dr. Bolton then related the case of a man, aged 60 years, who had suffered from retention, with a good deal of anal congestion and a foul and turbid condition of the urine. Treatment over several weeks with high-frequency currents applied to the prostate per rectum led to a marked relief of all the urgent symptoms as well as a return of the urine to a healthy state. Later x rays were on three occasions applied to the perineum and scrotum and this produced a considerable shrinkage in size of a large hydrocele which had been in evidence for some years. In a second case, that of a man, aged 54 years, the same conditions obtained, while the pain and frequent micturition had led to a thorough nervous breakdown. In this case also treatment by high-frequency currents was followed by a complete restoration of health and vigour so that the patient was able to return to his work in a tropical climate. The benefit conferred by such treatment appeared to be connected directly with the marked improvement of the pelvic circulation induced thereby.—Mr. Geraty, Mr. W. Morley Willis, Mr. R. G. Hogarth, Dr. W. Tibbles, and Mr. R. E. P. Squibbs discussed the subject and Dr. Bolton replied.—Mr. Hogarth and Miss E. M. Henwood communicated a paper on the case of a woman, aged 56 years, who came under treatment for Extensive Ulceration of the Rectum. The patient had had one severe attack of dysentery 20 years earlier and a second two years before the present illness. When seen by Mr. Hogarth she had been for some weeks in a most distressing condition. She was greatly emaciated, with a weak pulse of 120 and general abdominal pain, and there was continual tenesmus, with the passage of mucus, pus, and blood. Owing to the failure of medicinal and dietetic treatment colotomy was performed on the left side and the bowel below the aperture was kept entirely free from fæcal matters and irrigated daily with boric acid solution for about six weeks. Immediately after the operation her condition was for some days exceedingly precarious, as troublesome vomiting set in and femoral thrombosis occurred in both legs. Valuable assistance in the case was given at this stage by Miss A. M. le Pelley and recovery took place. Five months after the original operation a second one to close the opening into the bowel was undertaken and this was improved by a further operation three months later. When seen less than a month ago, and 18 months after the original operation, the patient was in perfect health, had gained considerably in weight, and the rectum had returned to a thoroughly normal condition.—Mr. A. R. Tweedie, Mr. Willis, and Dr. Bolton discussed the case and Mr. Hogarth and Miss Henwood replied.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Jan. 4th, Dr. J. R. T. Conner, the President, being in the chair.—Dr. W. Langdon Brown showed the following pathological specimens: 1. The Brain of a man, aged 25 years, who after an attack of influenza developed tingling and numbness of the right hand, loss of memory, headache, vomiting, early optic neuritis, and subsequently right facial paralysis. A tumour in the left frontal lobe was diagnosed but trephining over that region revealed none. A hernia cerebri developed which the patient infected and he died from meningitis. Post mortem a cystic cartilaginous tumour was found situated in the left occipital lobe. 2. The Heart of a man, aged 46 years, who died from gonococcal endocarditis. When admitted to hospital the patient had a high temperature and marked mitral stenosis; he had previously had pneumonia and an attack of hæmaturia. Infective endocarditis was diagnosed and a blood culture showed gonococci. Post mortem both mitral and aortic valves were narrowed, puckered, and had vegetations on them. There was also acute nephritis which accounted for the hæmaturia. 3. A series of specimens showing hæmorrhage into, and new growths of, the suprarenal gland.

Reviews and Notices of Books.

New Serum-Therapy. By D. MONTGOMERIE PATON, L.R.C.S., L.R.C.P. Edin. London: Baillière, Tindall, and Cox. 1906. Pp. 311. Price 6s. net.

IMPRESSED by the results reported by certain observers from the administration of antidiphtheritic serum by the mouth not only in diphtheria but in other diseases, Mr. Paton during the past eight years has subjected the matter to clinical and experimental study in the course of which we are told that he has employed 3333 ounces of antidiphtheritic serum and 40 gallons of simple plasma from the horse, the sheep, and the ox. His results are given in the book before us, which contains a description of the methods adopted, a series of "clinical papers" on various diseases and pathological conditions in which he has tried the use of the serums, and a theory of natural immunity which he has elaborated to explain his results.

Mr. Paton maintains that antidiphtheritic serum orally administered is practically a specific for septic infections, whether primary or occurring as complications of other morbid processes or infections, while simple plasma—that is plasma from a normal animal—is useful in cases of deficient nutrition from various causes, such as over-lactation and anæmia, and also in some cases of tuberculosis. The antidiphtheritic serums used were specially prepared for Mr. Paton by a firm of druggists, one being described as a low potency serum, containing 6000 units to the ounce, and the other, called "special" serum, being prepared by the use of diphtheria cultures grown on a 25 per cent. aqueous solution of normal horse serum. The serum obtained from the horse after inoculation with such a culture is described as having greater "antiproteolytic power" and as being more effective in cases of chronic suppuration. Both serums are given in doses of one drachm diluted to half an ounce with water, the dose being repeated hourly or half-hourly for three or four doses and then every two or four hours as the course of the case may require. So marked are the results as recorded by Mr. Paton that it is difficult not to suppose that his enthusiasm has led him to take a highly roseate view of the effects obtained by the measures which he recommends; at the same time it must be admitted that he records some of his failures as well as his successes, and that he is careful to point out those conditions in which he has found it unavailing, such as pneumonia, gonorrhœa, syphilis, malaria, and locomotor ataxy.

Space does not permit of even an enumeration of the various conditions in which the antidiphtheritic serums and simple plasma have proved of value in Mr. Paton's hands; broadly speaking, they may be classed as septic infections, simple and traumatic inflammations, and various conditions of malnutrition and asthenia. The explanation of the efficacy of the serums suggested by Mr. Paton is that every tissue has a capacity for nutrition, repair, and maintenance of function which may be called tissue tone. This condition or capacity becomes resistance to infection or tissue resistance when it is capable of carrying on the function of the tissue unimpaired in the presence of an infection. Further, this tissue resistance is the fundamental factor in immunity, antitoxins and antibacterial substances being adjuvants. The oral use of plasma from an animal is supposed to convey to the patient the elements elaborated by the animal to produce in its tissues the reactions necessary for the maintenance of the normal tissue tone and to stimulate similar reactions in the patient. Antidiphtheritic serum is assumed to contain a substance which acts upon the involuntary muscle of the body antagonising the depressant actions the products of infective organisms,

another resisting the digestive action of septic organisms distinguished as the antiproteolytic element, and a third leading to increased leucocyte production. By these substances the beneficial effects of the oral exhibition of serum are explained and not by the antitoxin it contains, which is generally believed not to be absorbed in any quantity when the serum is given by the mouth.

Without actual trial it is, of course, impossible to estimate the value of Mr. Paton's results but as he gives his methods in detail there should be no difficulty in putting them to the test and if in other hands they give only a tithe of the good results claimed for them in this book we shall welcome a valuable addition to our means of treating a group of troublesome disorders. It must be confessed, however, that although illustrative cases are given showing benefit or relief in an extraordinary variety of conditions no actual statistics are given, while in some instances the number of cases has admittedly been as few as two or three. Again, in many cases the conditions were those of chronic disease and the improvement temporary, an association which not infrequently occurs after the administration of fresh remedies in such conditions but not necessarily as a direct result. Again, in appendicitis Mr. Paton maintains that the serum, if given before the formation of pus, "in almost all cases so raises the resistance that the process is quickly moderated and recovery follows." Such a conclusion it would be difficult to accept in a disease which so frequently subsides without suppuration, except after its trial in a very large number of cases. The same criticism applies to other conditions in which it has been tried in only a very few cases, such as acute nephritis, meningitis, and otitis. None the less, the improvement recorded in many of the cases is suggestive and the method is worth a trial but without more extended investigation it is impossible at present to appraise its value.

Pulmonary Phthisis: its Diagnosis, Prognosis, and Treatment. By H. HYSLOP THOMSON, M.D. Glasg., Visiting Physician to the Consumption Sanatorium of Scotland, Bridge of Weir, N.B. London: John Bale, Sons, and Danielsson, Limited. 1906. Pp. 188. Price 5*s.* net.

THE aim of this little book is to "provide a short and concise account of pulmonary phthisis and be of some help to the general practitioner in the diagnosis, prognosis, and treatment of the disease." It embodies the author's experience gained during five years' connexion with the sanatorium at Bridge of Weir, a period of time which, we may venture to suggest, does not necessarily qualify a writer as an authority on all aspects of the disease in question, but which affords a respectable basis for many observations of value. The first section of the book deals with the diagnosis of pulmonary tuberculosis, as we think the condition is better called, the word phthisis being banished except as a convenient abbreviation for purposes of conversation or note-taking. This section is, perhaps, the weakest in the book, the author scarcely seeming at times to appreciate the real extent of the difficulties presented in recognising the early stages of the disease, while not a little of the advice given appears to be second-hand. The statements themselves are unexceptionable but we doubt whether they will afford any great aid to the practitioner in difficulties; in truth, he must gain his experience for himself or take the advice of those who have done so. The second section deals with prognosis and here we meet with more evidence of the author's own experience and respect his dicta accordingly. As a point of interest we note his view that the occurrence of pyorrhœa alveolaris in the tuberculous patient is of evil omen. The third section is devoted to treatment and here again much useful advice is given as to general and symptomatic measures. Of interest is the author's observation that harm rather than good resulted in the one and only case in which he tried amyl nitrite for hæmoptysis. We doubt whether there is any special merit in forbidding tuberculous patients in sanatoriums the use of hats. The last chapter of the book deals with tuberculosis in children. We fully endorse the author's regret at the absence of organised effort in this country to provide accommodation for the open-air treatment of pulmonary tuberculosis in the young; indeed, the provision for all forms of tuberculosis in children is sadly inadequate. A more careful revision of the proofs of the book would have removed some grammatical errors, such as "the presence of adventitious sounds are of greater import," "resume the *statu quo ante*," and a few others. We are grateful to the publishers for the rough surface of the paper employed, which is a welcome relief after the highly glazed pages of so many modern books.

The Practical Medicine Series, comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III., on the Eye, Ear, Nose, and Throat. Edited by CASEY A. WOOD, C.M., M.D., D.C.L.; ALBERT H. ANDREWS, M.D.; and GUSTAVUS P. HEAD, M.D. Series 1906. Chicago: The Year Book Publishers. Pp. 268. Price 6*s.*

THIS valuable compendium of papers which have been written during the past 12 months on these special subjects has been very carefully compiled by the editors. The papers are, however, somewhat unequal in value. The first 142 pages, which are devoted to the eye and its diseases, are of a more generally worldwide origin than the other two sections, in which the tendency appears to be rather to rely on the journals especially devoted to diseases of the ear, nose, and throat. We think that if the editors could arrange with one or more authorities in each specialty in foreign countries for the transmission of all papers bearing on their specialty worthy of record the result might be a work of such value that no thoughtful worker could dispense with it. However, as things are, the only annual record (in book form) in our language of the work done in these departments is to be found in the *Practical Medicine Series*, and the specialties dealt with owe the editors a debt of gratitude for their energetic and painstaking work.

LIBRARY TABLE.

Æquanimitas. By Professor WILLIAM OSLER, M.D., F.R.S. Second edition, with three additional addresses. London: H. K. Lewis. 1906. Pp. 475. Price 8*s.*—We reviewed the first edition of Professor Osler's delightful volume of essays in THE LANCET of Dec. 24th, 1904. This, the second edition, besides the essays contained in the first, includes three valedictory addresses delivered before leaving America, one of these being that entitled "The Fixed Period," which created such an excitement at the time of its delivery on account of Professor Osler's ironical suggestion concerning persons over 60 years of age. The closing essay of the book, entitled "Unity, Peace, and Concord," is written with all the breadth of view and the beauty of style which make Professor Osler's writings so characteristic and so valuable, and as the *envoi* to the book we have the remarks of Professor Osler at the farewell dinner given to him by the profession of the United States and of Canada in New York on May 20th, 1905. In this Professor Osler gives his British readers a glimpse at his life in Canada and the United States, and upon reading it we realise more than ever the loss which the United States have sustained and the enormous gain to Oxford which the passage of William Osler from one to the other has brought about.

The Management of a Plague Epidemic. By E. F. GORDON TUCKER, Captain I.M.S. Calcutta: Thacker, Spink, and Co. 1906. Pp. 30. Rs.1.8.—The principles laid down in

this work concerning the management of a plague epidemic are founded on a paper by the author which appeared in *Indian Public Health*. They are published with the view of giving some definite and precise instructions to the medical or civil officer who finds himself in charge of a town or district threatened with plague; such a position is very different in India from what it would be in a European country, owing to the racial and religious prejudices of the people and the difficulty of persuading them to adopt the necessary measures. The author begins by describing the stages of a plague epidemic. As regards the primary infecting agent he places in the order of their importance the following: (1) infected human new arrivals; (2) infected clothing; (3) infected merchandise; and (4) infected rats. The crucial point in Captain Tucker's management is to work on the supposition that a plague epidemic results from a temporary soil infection and therefore to endeavour to educate the inhabitants of any given town or city up to the point of accepting reasonable evacuation of areas in plague seasons. The methods to be employed in evacuation for plague will appeal to all who have had experience in the East as remarkably reasonable and in addition they are of such a nature as not to excite any religious or racial animosity. This little work is likely to be of much assistance to those engaged in plague districts.

A History of Dancing. By REGINALD ST. JOHNSTON, M.R.C.S. Eng., L.R.C.P. Lond. London: Simpkin, Marshall, Hamilton, Kent, and Co. 1906.—Mr. St. Johnston's title is somewhat misleading and, indeed, it is impossible to compress a history of dancing, which is probably the most primitive way of expressing emotion, within the compass of 194 small pages. However, he has given us some interesting notes upon the subject. For instance, in Chapter II., which deals with dancing as a religious ceremony, he omits all mention of the solemn dance still held in the Cathedral of Seville on the Feasts of Corpus Christi and the Assumption, though he mentions that "right up to the middle of the eighteenth century there were traces of religious dances in cathedrals in Spain." At p. 49 he gives an account by an eye-witness of a Morris dance danced in Cheltenham about 40 years ago. A medical man informs us that more recently than this—namely, in 1878—he saw a Morris dance danced in Oxford; the exact date he cannot remember, but it was either just before or just after the day upon which the *Eurydice* foundered in the Channel (March 24th, 1878). The dancers, as in the Cheltenham dance, were dressed in knee-breeches, white shirts with sleeves tied up with ribbons, and carried short sticks. The choragus had a fox's brush attached to his hat and the hats were of a curious shape, something like a hunting cap. Mr. St. Johnston concludes his book with some accounts of modern dancers which are often imperfect, and modern theatre-goers would not acquiesce in the dismissal of the accomplished Mlle. Genée in three lines. The most interesting thing in the book to us is a reproduction of a delightful picture from an early copy of "The Pilgrim's Progress" showing a dance of joy of the pilgrims at the overthrow of Doubting Castle.

Annual Report of the Executive Medical Officer, Municipality of Bombay, for 1905. Pp. 93.—In his annual report Dr. N. H. Choksy deals with the deficient rainfall which occurred in Bombay again in 1905 as in the previous year. This, however, was not local but general over almost every collectorate and Presidency in India, although there were instances of excessive rainfall in places. Evil effects are to be feared from this deficiency during the next hot season, for refugees owing to famine will probably be flocking in numbers to the city, causing much overcrowding. The attitude of the vaccination department is entered into and the question of the somewhat large number of unregistered births is discussed. The annual death-rate was 61·54 per 1000, against 54·99 in the previous year; excluding the mortality due to plague it was 43·25 per 1000. The increase in the year's rate of mortality was chiefly due to small-pox, measles, plague, fevers, and diseases of the respiratory system. The plague mortality commenced to rise from January and kept its high rate till the end of June, when it began to decline, being very low from October to December. The number of attacks and deaths from this disease registered during the year was respectively 16,308 and 14,198, as against 15,488 and 13,538 during the previous year. There was an epidemic of small-pox during the cold season in Bombay, the advent of the abnormal cold weather being very favourable to its dissemination. Still further, it threatened to spread through the city and to affect all communities alike. The divisional health officers and the district registrars and their staffs took vigorous measures to arrest the progress of the epidemic and to press vaccination by issuing instructions as to vaccination and revaccination and leaflets informing the public of the addresses of ambulances for the removal of patients suffering from small-pox. The mortality among the cases removed to the small-pox hospital was 25·66 per cent. as contrasted with that of those not removed, which was 62·81 per cent. A section of the report deals comprehensively with the subject of plague administration, especially with regard to the systematic examination of rats. Much valuable information has been gathered as to the relation of plague in rats to plague in man. Since the examination began in July the ratio of plague-infected rats to the total number daily collected has risen from 2 per cent. to 20 per cent. The rats were sent to the Parel Laboratory for examination, where bacteriological examination was made of every rat sent, and whenever a rat was found to be plague infected an intimation to that effect was at once sent to the place from which it was derived and also to the divisional health officer; the place was then disinfected. About 1600 rats were examined daily. The report states that it is too early as yet to form any conclusion from the inquiries hitherto made. As regards the effect of the serum treatment in saving life there could be no doubt as to its being of greater efficacy than the ordinary treatment. This report is very creditable as regards the large amount of work that has evidently been performed during 1905 by the health authorities in Bombay.

School Hygiene and the Laws of Health: A Text-book for Teachers and Students in Training. By CHARLES PORTER, M.D. Edin., Barrister-at-Law, Middle Temple. With 119 illustrations. London, New York, and Bombay: Longmans, Green, and Co. 1906. Pp. 313. Price 3*s*. 6*d*.—The matter upon which this book is founded formed the basis of a course of lectures delivered to the teachers acting under the Education Committee of Sheffield and the students of the Sheffield Training College. The idea of the education committee in arranging for the course of lectures was to afford the teachers an opportunity of acquiring such information as might assist them in protecting the health of school children. It was desired that the course might include not only instruction in what has been called the "laws of health," which the teachers might in turn impart to the children, but also hints on the manner of detecting diseases likely to be met with in schools. The lectures were largely modelled on the plans set out in the syllabus for the Royal Sanitary Institute examination in school hygiene; each system in the body was taken up in turn, the structure and functions of the organs composing it were considered, and the modes in which they might be affected by school conditions and diseases and how they were to be protected were described. In the first part of the book each system is treated of in a separate chapter. The second part deals with the school building and is largely an extension of the regulations of the Board of Education, 1905,

in connexion with school construction. In this part school furnishing, sanitation, ventilation, and such other subjects as could not well be discussed in the first part are considered. In Chapter XI., which deals with eyesight, the author has had the advantage of the advice of Mr. Simeon Snell, ophthalmic surgeon to the Royal Infirmary, Sheffield, and professor of ophthalmology in the University. One of the best portions of the book is the section which deals with the seating arrangements for the children. The proper seat is one that compels the pupil to sit upright with the head and trunk erect, with the work at the average near-point distance, with the thighs at right angles to the trunk and legs, and both feet flat upon the floor, not on foot-rests, at right angles to the legs. It would be well for all scholars if the adjustable seats and the Anglo-Swiss adjustable desk, or seats and desks of similar patterns, were introduced by compulsion. In many of our large public schools not only are the class-rooms badly lighted and ventilated but the forms and desks are so arranged as to permit boys to sit in a slouching manner during the hours of tuition and preparation; hence, in spite of cadet corps and gymnasiums, they often hold themselves badly. The book is an excellent manual; we wish that the head-masters and house-masters of our public schools were obliged to possess the knowledge which it contains. We look, however, in vain for any suggestions on the difficult subject of punishments for schoolboys. At present, in some of our public schools, the cane applied over the nates or, what is worse, over the back indiscriminately, is used as the chief punishment both by the head-master and house-masters, with, we believe, disastrous results in many cases. The old form of birching for the graver offences is, in our opinion, less harmful in every way. We hope that Dr. Porter will add a chapter on the subject of school punishments should a second edition of his book be called for. The illustrations in the volume are good.

Plant Life. By HORACE F. JONES, F.C.S. London: Methuen and Co. 1906. Pp. 260. Price 3s. 6d.—The increasing attention which is being paid to nature-study in primary and secondary schools has resulted in the production of many books the object of which is to educate the observational powers of pupils and to stimulate their interest in the world around them. The present volume belongs to this class of publication. In designing a course of studies in plant life the author has had in mind the difficulties which beset the teacher owing to the limited time at his disposal for this kind of teaching as a special subject and also the obvious restrictions imposed by seasonal and climatic conditions generally. While clearly recognising that the study of plant life ought to be made in natural surroundings—in fields and country lanes—the author has endeavoured to minimise the inevitable restricted conditions of nature-study in schools by calling to his aid small cultivated pieces of ground, a few flower-pots, and some apparatus of a quite simple kind. The book is divided into two parts, the first dealing with plant life in the garden and the second with plant life in the school. Commencing in Part I. with a study of the twig and the fall of the leaf, the author next discusses bulbs and tubers, insect visits, fertilisation, and the various devices of nature for the preservation of species and adaptation to environment, closing with an account of the grass family and ferns. In Part II. various experiments in connexion with the physical, chemical, and physiological functions of plants are indicated. An appendix gives some valuable information as to the best time of sowing seeds, transplanting seedlings and plants, and the means and cost of procuring apparatus. A feature of the excellent illustrations is that they have been so drawn as to be copied easily on a blackboard. We are glad to see the suggestion that teachers in town schools should obtain and plant, where possible, specimens of common wild flowers. It is a matter for regret that so few people in these days know the names of many of the most common of our wayside flowers and anything that can be done to foster a knowledge of our native flora is most desirable. The book is an eminently practical one and should form a welcome addition to a teacher's library. Though it may not be found possible in every school for teachers to work with their pupils through the whole course many useful suggestions and hints for object lessons in nature-study can be obtained from the book.

JOURNALS AND MAGAZINES.

Caledonian Medical Journal.—The opening article of the January number contains the clinical lecture by Dr. William Russell on Gastric and Duodenal Ulcer, which we publish in this issue of THE LANCET. Dr. W. A. Mackintosh of Stirling, the President of the Caledonian Medical Society, describes a Gaelic Medical MS. attributed to the fifteenth century and now in the library of the University of Edinburgh; great part of it consists of translations from the "Lilium Medicinæ" of Bernard Gordon of Montpellier in France. The Rev. Hugh MacCallum of Blair Atholl contributes an interesting account of the outlying island of St. Kilda where he once lived for a year as a teacher. Colonel Kenneth Macleod, I.M.S. (retired), formerly editor of the *Indian Medical Gazette*, relates an unpleasant experience into which journalistic duties led him—namely, a charge of criminally defaming another officer of the Indian Medical Service. At the trial Colonel Macleod was sentenced to a fine of Rs. 300 or a month's imprisonment but on appeal the Chief Justice of the High Court quashed the sentence. Dr. R. C. Maclagan of Edinburgh, in a paper on Folklore, discusses the origin and etymology of the words Duncan and Duncanson; some idea of his arguments may be formed from the circumstance that he quotes without comment the suggestion that "donkey, the animal name, took its origin from some Duncan or other."

The Edinburgh Medical Journal.—The December number opens with an address by Sir Dyce Duckworth on the Dignity of Medicine in which he notes that "the relations between physicians and intelligent patients are hardly as satisfactory now as they were wont to be" and attributes some part at least in the change to defective general education in medical men. Dr. H. G. Melville writes of Primary Broncho-Pneumonia in Adults which he considers to be by no means so rare as text-books would seem to imply, the difference between it and lobar pneumonia depending on the varying virulence of the causal organism, and Dr. J. Hally Meikle records some observations on Diphtheria Bacilli in the Throats of Convalescents and speaks in favour of careful local antisepsis. Mr. H. de Meric praises santyl for the internal treatment of gonorrhœa.

The Scottish Medical and Surgical Journal.—In the December number of this journal Dr. G. Lovell Gulland writes of Blood Examinations in General Practice and notes incidentally that slight cases of pernicious anæmia are more common than is often supposed, he himself having seen 30 new cases in the last year. Dr. J. W. Simpson recommends the use of preparations of thyroid gland in infantile marasmus and Dr. Edwin Bramwell and Dr. Arthur H. H. Sinclair emphasise the importance of Ophthalmoplegia Interna Unilaterale (surely it should be unilateralis) as a symptom having the same significance as the Argyll-Robertson pupil.

BRISTOL DISPENSARY.—The annual report of the Bristol Dispensary for 1906, which has just been issued, states that during the year 10,323 patients were treated, being an increase of 282 compared with 1905. The financial statement was satisfactory and showed that during the year a legacy of £1424 had been received from the executors of the late Rev. S. Tebbs.

THE LANCET.

LONDON: SATURDAY, JANUARY 12, 1907.

The Benevolent Agencies of the Profession.

THE epitome of cases relieved by the British Medical Benevolent Fund which we print from time to time, and the voting papers issued by the Royal Medical Foundation attached to Epsom College serve to keep before the profession two unpleasant facts—namely, that many members fall upon evil times owing to advanced age or to permanent incapacity, and that when death calls them from a life of ceaseless toil those who are near and dear are too often left poorly provided for and in many cases absolutely dependent upon the charity of friends. To read the brief accounts of cases relieved by these two important medical charities is painful in the extreme, and were it not for the fact that they forcibly remind medical men of their duties to themselves and to their fellow members the publication of such lists would hardly be desirable. From the constant appeals which emanate from the treasurers of both institutions, and in view of the comparatively small grants which are made by the British Medical Benevolent Fund, we are forced to come to the conclusion that there is an almost culpable lack of interest in the benevolent agencies of the profession. This conclusion is supported by two facts. In the first place, out of the 19 candidates for pensionerships from the Epsom College Foundation at the last election in only two instances had the college been supported by the husband or candidate, and the parents of only five out of the 30 candidates for foundation scholarships had contributed to the college in their better days. When we remember that considerable privileges are given, under the by-laws of the college, to candidates whose families have been contributors, thus enabling the foundation to be looked upon as somewhat in the nature of a provident society, it is surprising that comparatively so few medical men avail themselves of the advantages offered. In the second place, most of the leading provincial medical benevolent societies have been established over 60 years and some for over a century, so that we apparently lack the foresight and perseverance of our forefathers. We do not overlook the fact that there are considerable invested funds in connexion with both the London institutions to which we have referred for the purpose of giving pensions, but inquiry would probably show that these are the result of benefactions on the part of deceased medical men and others and are not the savings out of the contributions from members of the profession in practice.

It is universally granted that professional men as a rule are not business-like, and members of our own profession would hardly claim to be excepted from the rule. This, then, is probably the reason that there is so lamentable a lack of forethought on the part of medical men generally, with the result that the different agencies for rendering help in times of distress are not sufficiently known or fully appreciated. We have frequently drawn attention to the Society for the Relief of Widows and Orphans of Medical Men, the invested funds of which amount to close upon £100,000. Any qualified practitioner living within a radius of 20 miles from Charing Cross may be proposed as a member, the annual subscription being only two guineas, yet, though the names of 6500 medical men appear in the London part of the Medical Directory, there are only 296 members of this society in all. The benefits to be obtained by widows and orphans are far greater than those given by any insurance society, as two or three instances will show. A widow received for herself and family the sum of £2272, though her husband had paid only £18 18*s.* in subscriptions; three widows received an average of £700 each, whilst another received for herself and family £1654. Yet in spite of the repeated notices which appear in our columns as to the work carried on by the society so small a percentage of medical men eligible to be proposed as candidates avail themselves of the advantages of this society. There are also several provincial medical charities which are doing much good and which would be able to extend their work materially if they were but better endowed. The Birmingham Medical Benevolent Society carries on a useful work and in two instances £15 15*s.* paid in subscriptions were returned in grants amounting to £686 and £1247 respectively. The West Riding of Yorkshire Medical Charitable Society is well supported but it deserves to be helped by every medical man in that wealthy and extensive county. The Royal Medical Benevolent Fund Society of Ireland does good work but its honorary local secretaries and the council constantly complain of the lack of support. Benevolent societies also exist for Devon, Essex, Hertfordshire, Kent, Lincolnshire, Surrey, and Sussex, the last-mentioned having been established only two years ago. The Surrey Medical Benevolent Society is deservedly successful and possesses four presentations to Epsom College, the holders being admitted at a very moderate fee, but medical men in that county none the less put off the duty of joining the society. It must be recollected that in the cases of all local societies help is given with much less routine than when societies are dealing with strangers. It may be said that local societies are not well supported because subscriptions go to such general institutions as the British Medical Benevolent Fund, which disburses large sums annually in grants and pensions, and the Epsom College Foundation, which gives 50 pensions of £30 a year and boards, clothes, and educates free of charge 50 foundation scholars, but a glance at the lists of subscribers to both these charities will show that this is not a sound argument. If any page be taken from either list and the names of laymen, of livery companies and commercial firms be eliminated, and the remaining names be compared with the Medical Register, it will be seen that the support given by the profession is paltry in the extreme.

What is urgently wanted in the case of our benevolent agencies is not the generous support of a few conscientious men but the assistance, in however small a way, of all members of the profession. Every medical man entirely dependent upon his profession who is living within 20 miles of Charing Cross should look upon it as a duty to join the Society for the Relief of Widows

and Orphans of Medical Men; those living in counties where medical benevolent societies exist ought to be only too glad to avail themselves of the opportunities provided for them through the efforts of their far-sighted forefathers, so that if the hand of misfortune should fall upon them or their families timely help will be forthcoming more as a right than as a favour; and those medical men who possess the gift of business capacity should endeavour to institute local benevolent societies in counties where at present none exist. With loyal support such societies would not only be able to provide annuities and grants, but, as in the case of the Surrey Medical Benevolent Society, should be able to arrange for boys to enter Epsom College on favourable terms. In conclusion, the two great London charities, the Royal Medical Foundation of Epsom College and the British Medical Benevolent Fund, ought to receive the support of every medical man who can afford to subscribe half-a guinea or 5s. annually, for even if county associations give pensions and grants to their members the annuities from these two charities would supplement the local aid, apart from being the sole assistance in the case of numerous applicants who otherwise would not be helped. As for the work done by the Epsom College in maintaining 50 foundation scholars, thus enabling boys in many cases to regain the position lost through the premature death or permanent incapacity of their fathers, some of our readers will frankly confess that they practically owe all that they possess to the help rendered by the college.

We may, in conclusion, refer briefly to the work of THE LANCET Relief Fund, the annual report of the Almoners of which, with the balance-sheet audited by the veteran Sir HENRY PITMAN, now but six months away from the hundredth anniversary of his birthday, appears in this issue. The proprietors of THE LANCET have since 1889 placed £300 to the credit of this Fund upon the first day of each year (making in all a total of £5700 contributed by them since its commencement) and have left the distribution, with the consent of the Councils of the Royal College of Physicians of London, of the Royal College of Surgeons of England, and of the General Medical Council, in the hands of the Presidents of those bodies, who have in their different personalities invariably consented to be associated with them as Almoners. Last year 33 cases were relieved, at a cost of £460 7s. 9d. The Fund is designed to meet cases of sudden emergency in a way that the usual benevolent agency cannot effect, and information derived during its administration has proved over and over again to us the value of its work.

An Editor's Responsibility.

A VERY important prosecution was brought to a satisfactory conclusion on Dec. 19th, 1906, when the Court for the Consideration of Crown Cases Reserved affirmed the conviction of EDWARD DE MARNY, editor of *Judy*, which took place some weeks before at the Old Bailey. On Tuesday last, Jan. 8th, DE MARNY surrendered to his bail and was sentenced to two months' imprisonment in the second division. The charge arose out of the publication by the defendant in his paper of a number of advertisements of indecent books and photographs, but the importance of the case from our point of view lies in its bearing upon advertisements of abortifacients and of quack medicines sold as such. The conviction of DE MARNY should result in the encouragement of the police in taking proceedings in respect of a grossly mischievous laxity into which those responsible for many newspapers and magazines constantly fall. The precise offences with which DE MARNY was charged were stated in various counts of an indictment which set forth under alternative aspects that he aided and abetted in the dissemination of indecent matter by causing and procuring to be sold the books and photographs described, and by causing and procuring them to be sent by post. A page of *Judy* containing advertisements lies before us and constitutes a document of which it might well be said that if the law were powerless to deal with it the sooner the legislature turned its attention to strengthening the law the better. The page in question is from the issue of Oct. 20th, 1906, and contains 19 advertisements, of which six refer to books and photographs in terms which leave no doubt as to the character of the literature offered, and the rest present the claim to public support of "female pills," of "cures for irregularities," of "cures" for "exhausted vitality and all special diseases and weaknesses of man," and of "rubber goods." The most prominent advertisement in the page, occupying a whole column, opens with the offer at 1s. 3d. post free of a book entitled "Marriage and Mysteries," for which its publisher, whose address is at Nottingham, claims the distinction that it has been "twice seized by the police." Some of the advertisements of photographs are those of dealers with addresses abroad, others of dealers at home; whether, in fact, these all relate to indecent publications we are not aware but they are so worded that they would obviously suggest an opportunity for the purchase of indecent pictures to persons in search of such. The other advertisements referred to are of the usual kind. Another page of the same issue before us contains yet more advertisements of like character to those described, and as the number of the paper which we have obtained is of a date subsequent to the commencement of proceedings against its editor we may safely infer that the advertisements for which he will now suffer imprisonment did not fall short of those which we have examined.

In addition to the advertisements which he inserted being themselves absolutely disgusting in their barefaced audacity, he had been warned distinctly by the police of the nature of the goods which the vendors sought to make known with his connivance and assistance, and that this had some effect in rendering his conviction inevitable may safely be inferred. The police supplied evidence of the actual nature of the goods advertised, producing photographs and books which they had obtained by writing to the addresses given. The points left to the consideration of the jury by the Common Serjeant who tried the case at the Old Bailey may be noted as indicating what would have to be proved should prosecutions take place in respect of other advertisements as has been suggested above. He directed them to convict should they be satisfied (1) that the books and photographs received by the police from the advertisers were in fact obscene; (2) that the defendant knew when he printed the advertisements that the things

advertised were obscene; and (3) that the advertisements brought about the sale and transmission by post of the books. He further laid down that it was not necessary that the defendant should be proved to have known in detail the actual subjects of the books and photographs, and that the jury, in estimating his knowledge, might take into account the warnings given to him by the police, the nature of the advertisements under consideration, and the nature of the other advertisements in the same issue of the defendant's paper. The points of law submitted to the Court for the Consideration of Crown Cases Reserved were, firstly, that as the vendors of indecent matter lived and carried out their transactions beyond the jurisdiction of the court there could have been no conviction of them as principals, and that as a matter of law there could be no conviction for "aiding and abetting" principals who could not themselves be convicted as such. Secondly, it was argued that by publishing advertisements the defendant could not be deemed to procure the publication of the obscene matter any more than a sandwichman could be said to procure a theatrical performance by carrying a poster relating to it through the streets. Lord ALVERSTONE, however, who delivered a judgment with which the four judges who sat with him concurred, declined to accept these propositions and held that the Common Serjeant had directed the jury rightly in accordance with the precedents contained in cases already decided. His lordship pointed out that the defendant had for his own profit inserted in his newspaper advertisements which informed people where certain matter could be obtained, and it was found as a fact in the case that he knew that the matter advertised was of an indecent character and that if they were at liberty to draw any conclusion from the advertisements themselves there could be no doubt that he knew. His lordship added with emphasis that, in his opinion, it would be a lamentable thing if the law were not strong enough to deal with such a case.

DE MARNY therefore goes to prison with the full assurance that his punishment is strictly justified by the legal aspect of his offence and that all right-minded citizens must feel that it is richly deserved from the point of view of those who consider the moral welfare of the community. His trial has established the fact that a jury will hold that the editor of a newspaper knows as well as his readers do the ordinary import of the advertisements which he or the proprietor of the journal is paid to publish and that the law allows him to be credited with that knowledge. After all there is no particular hardship involved in this. It is not necessary that he should exercise an extraordinary amount of intelligence or of vigilance, and he is not likely to be charged with an offence where an isolated insertion of objectionable matter has been due to a mistake. Traders who sell indecent pictures and literature and those of the other class to which we have referred who deal in quack concoctions, which they sell as abortifacients, have to inform those members of the community for whom they cater of the nature of the goods that they hold for sale. In order to do this it is essential for them that they should address a circle of readers as wide as possible and that they should do so in such plain and simple language that persons not usually of a very intelligent class may understand at a glance what is offered. Their advertisements are written with this object, and that they attain it is shown by the fact that whenever an abortionist is arrested and his place of business is inspected by the police it is found that the correspondence elicited has been enormous. Indeed, the number of these advertisements and their obvious costliness afford by themselves ample evidence of the prosperous trade which they enable the quack to carry on. Editors and proprietors of newspapers are usually credited with a certain amount of intelligence and acuteness of perception, as well as with some knowledge of the world. In order to hold them responsible as knowing what they advertise a jury must believe them to be as capable of understanding certain phrases and expressions of no particular obscurity as the servant girls and others of similar educational attainments to whom the matter in question is largely addressed. If certain advertisements now appearing in newspapers which could readily be named do not disappear before long we shall hope to see similar prosecutions to that of DE MARNY instituted, particularly in respect of abortifacients. Here the goods advertised are sold and bought with a view to the commission of felony and are used to endanger and to destroy human life, a matter which seems to demand police interference no less than the corruption of the young by the dissemination of lewd literature and pornographic photographs. We should like the prosecutions also, where possible, to have regard to the position of the proprietors of the offending journals. It is the proprietor, not the editor, whose purse is directly enriched by the money of advertisers. To some extent the proprietor is in the power of the editor, with whom the refusal of a doubtful advertisement must lie; but, on the other hand, the editor is in the hands of the proprietor who can order him to insert any particular advertisement or to send in his resignation.

"The Surgeon's Power of Life and Death."

DR. J. A. RIGBY has contributed to the December number of the *Independent Review* an article entitled "The Surgeon's Power of Life and Death," and has thereby stirred into enthusiasm the *gobe-mouches* of the local press of the district in which he resides, and has to our mind, presumably without the least intention, done a certain amount of damage to his profession. Dr. RIGBY informs the readers of the *Review* that "gradually, progressively, almost imperceptibly, there has of recent years arisen in our midst a new tribunal—endowed with the power of deciding questions of life and death," and that "there is no appeal whatever from its decisions, which are practically immutable and irresistible." He goes on to say, in words too numerous for precise quotation, that as soon as a man has obtained any medical qualification he is at once given in a vast number of cases the power of deciding whether a person consulting him shall be submitted to an operation "which may cost him his life or leave him seriously maimed or incapacitated for life. This terrible power of life and death is placed in the hands of an inexperienced youth, practically without any safeguard," and the author adds that when an operation has been performed, when the patient is dead, and a medical certificate

has been given by the operator, "there is an end of the matter." This is an extraordinary farrago to be put forward by a medical practitioner and the author goes on to illustrate and to support his position by an account of an "illegitimate and indefensible operation" which was performed, in spite of his opposition, by a "well-known operating surgeon," at the house of the patient, who was a blacksmith "suffering from a cancer affecting the parietes of the abdomen just over the region of the liver." The operator, we are told, has long been dead, and there is therefore no possibility of obtaining any version of the story which might remove its apparent contradictions and bring it into line with ordinary experience, but, even as it is told, it does not seem to us to reinforce Dr. RIGBY'S contentions.

Dr. RIGBY divides operations into three classes: (1) the legitimate and defensible; (2) the illegitimate and indefensible; and (3) such as are on the borderland between the preceding; and he omits to point out to his lay audience that, even assuming his classification to be correct, the tendency of events is towards the constant removal of his second and third classes into the first. Such a removal, indeed, is in brief the history of surgery. A man of original mind sees the possibility of relieving some ailment by surgical means, but he does not at once perceive all the difficulties which may stand in the way of a successful issue. He tries, and perhaps accomplishes the operative procedure at which he aims, but he does not succeed in curing the patient. He tries again and succeeds. He compares the conditions of the first case with those of the second and by proceeding in this way he gradually learns to eliminate the cases which are unsuitable for operative treatment and to obviate the causes of death in those for which operations are performed. Such, for example, was precisely the history of ovariotomy. The discovery of an ovarian cyst was, before the operation for the condition was devised, a sentence of death, but the patient might look forward to an average respite of about four years, mostly years of suffering and of incapacity. The removal of the cyst, when first undertaken, was immediately fatal in about three cases out of five; and distinguished surgeons were of opinion that the operation, to use the words of Dr. RIGBY, was "illegitimate and indefensible." By patience and perseverance the difficulties were overcome, and when Sir SPENCER WELLS was able to chronicle a hundred consecutive cases without a single death the operation took its rank among the natural resources of surgery, no longer as a forlorn hope which might be offered but as an ordinary method of treatment, of the benefit of which it was not right that any patient should be deprived. Before this stage was fully reached we heard of a case in a provincial city in which a surgeon who was abreast of the knowledge of the day suggested that the operation should be performed. The friends desired that an elderly physician of the locality should be consulted. He came but altogether refused to sanction the operation. He did not, however, desire that the patient should be left untreated. "What I should do," he said, "would be to rub her belly with a little goose grease." The history of the operation for appendicitis, now every day performed successfully, is much the same as the history of ovariotomy, with the difference that many cases of appendicitis would recover if treated by medical means alone. Notwithstanding this difference, there can be no doubt that the operation has greatly diminished both the general mortality arising from the condition and the duration of illness in cases which might have recovered under medical treatment alone. Its systematic performance could not be relinquished except at the cost of many lives.

Dr. RIGBY'S assertion that the responsibility of deciding in a question of life and death is left, "in a vast number of cases," in "the hands of an inexperienced youth" is, amazing to us from a medical man's pen. An "inexperienced youth" does not attend a "vast number of cases" of any sort; and very few patients would accept his recommendation to be operated upon until it had been confirmed by practitioners of longer standing than his own. The regulations of most hospitals are such as to afford only limited opportunities of operating to the junior members of the surgical staff, and consultations are usually required before operations are undertaken. On the whole, in such matters the mental tendencies of the profession are, we think, decidedly conservative. In the early history of ovariotomy, while two or three men were working silently and strenuously to bring it to perfection, the general attitude of the profession was distinctly hostile. The first amputation at the hip-joint ever performed in England was done by Mr. ORTON, a general practitioner in a Nottinghamshire village, on a young man who had been sent home from the Nottingham Infirmary to die. Mr. ORTON asked the surgeons to the infirmary to be present and they came, but they declined to take the responsibility of rendering him any assistance and remained as passive spectators of his proceedings. Fifty years afterwards the patient followed the remains of Mr. ORTON to the grave, and an operation which Dr. RIGBY would, we fear, have denounced as unjustifiable was fully justified by its results.

As long as human nature is fallible, surgeons, like other men, will sometimes do what it would be better to omit and will sometimes omit what it would be better to do. But the path of duty in relation to the matters dealt with by Dr. RIGBY is not only perfectly plain but it is also perfectly well understood and systematically acted upon. It is unjustifiable to perform an operation which offers no reasonable prospect of success and, *pace* Dr. RIGBY, few surgeons would attempt such an one, even if it were only from regard to their own reputations. The death of a patient, and especially of an operation case, is often extremely injurious to a practitioner. It is equally unjustifiable to withhold from a patient a possible means of safety and of cure, or to depend upon "goose grease" when an operation is required. The plain duty of the surgeon, in every case, is to place the truth of the matter, so far as it is known to him, before the patient and the patient's friends, to suggest a consultation in cases as to which he is in doubt, and not to refuse to give a chance of life and of recovery, even when it may seem to him to be a slender one. As for the patient, if he chooses to place the issues of life and death in the hands of "an inexperienced youth" he has only himself to blame if the want of experience should be misleading. The alarm sounded by Dr. RIGBY appears to us to be a

false one; and we think his paper calculated to excite a prejudice against the medical profession, and against operating surgeons more especially, which the facts, far from justifying, are calculated entirely to remove.

Annotations.

"Ne quid nimis."

THE VITAL STATISTICS OF LONDON IN 1906.

THE public health committee of the London County Council has just submitted the report of the medical officer of health of the county of London for 1905, and the report of the committee calls attention to the marked decline in the death-rate prevailing in recent years among the nearly five millions of persons residing within the county of London. We shall review Sir Shirley Murphy's report in full in subsequent issues of THE LANCET, but in the meantime it may not be without interest to supplement this report with a few facts relating to the health of London in the year 1906, derived from the Registrar-General's weekly and quarterly returns. The death-rate of the London population in 1906 was equal to 15·7 per 1000, against 16·6 and 15·6 in 1904 and 1905. As evidence of the remarkable improvement in the health of London during recent years it may be noted that during the last four decades of the nineteenth century the metropolitan death-rate was successively 24·4, 22·5, 20·5, and 19·6 per 1000, while the mean annual death-rate during the first six years of the present century has further declined to 16·5, showing a far more rapid rate of decrease than prevailed in any of the four preceding decades. That the London death-rate in three of the last six years should have fallen considerably below 16·0 per 1000 can only be regarded as a triumph of progressive sanitary administration and as confuting the alleged progressive physical degeneration. This evidence of sanitary progress should, however, act as a powerful incentive to further effort to combat the unquestionable degeneracy which still exists in many parts of the metropolis and which will be reflected in some of the local district death-rates, when they are available. For instance, in 1905 the corrected death-rate in the metropolitan boroughs ranged from 10·5 in Hampstead to 20·6 in Shoreditch, and there is little ground for supposing that the local rates for 1906 will not differ fully as widely. It is also eminently satisfactory to find that the rate of infantile mortality has recently, to some extent, shared in the general decline of the London death-rate. During last year the deaths of infants under one year of age were in the proportion of 133 per 1000 registered births, against 146 and 131 in 1904 and 1905. The mean rate of infantile mortality in London during the ten years 1891–1900 was equal to 160 per 1000, and considerably exceeded the mean rate during the preceding 50 years; the mean rate in the past six years of the current decade, 1901–6, has fallen, however, to 139 per 1000. It is true that this infantile death-rate last year slightly exceeded the rate for 1905, but it must be borne in mind that the meteorological conditions during last summer, of high temperature and exceptionally small rainfall, considerably increased the fatality of diarrhœa, which caused 3536 deaths in London in the summer quarter of 1906, against 2706 in the corresponding quarter of 1905. Due allowance for the effect of those unfavourable meteorological conditions fully accounts for the slight increase last year in the rate of infantile mortality compared with the still lower rate that prevailed in 1905. Notwithstanding this satisfactory recent decline of infantile mortality in London there is still abundant proof of much waste of infant life in the metropolis. In 1905, for instance, when the general rate in London did not exceed 131 per 1000, the rate ranged upwards in the several metropolitan boroughs to 151 in Bethnal Green, 153 in Poplar, and 167 in Shoreditch. Public interest in this discreditable loss of infant life has been so thoroughly aroused by the recent National Conference on Infant Mortality that further reduction in the near future may be confidently anticipated in London as well as in those provincial towns in which the waste of infant life is still more conspicuous.

HOSPITALS AND THE PREVENTION OF DISEASE.

IN the first report of the Stepney Visitors' Association, a copy of which has been sent to us, there is a note under the above heading calling attention to neglected opportunities for the education of the public in the elements of hygiene. It is suggested that the resources of the great voluntary hospitals might be applied to measures directed to exterminate disease, in addition to those of the actual treatment with which they are at present mainly concerned. The outline of the scheme suggested may be given in the writer's own words: "It is submitted that the romance attached to hospitals and the faith of the public in the clinical economy within their walls afford a *primâ facie* reason for the great success of any movement which had as its object the elementary education in the first principles of health and the prevention of preventable diseases, of district visitors, of parties of mothers, of members of artisans' clubs, and of classes of school children. General hygiene might be considered, with particular attention to such special subjects as tuberculosis, vaccination, diets for different ages, the abuse of alcohol, and first-aid to the injured." The writer proceeds to detail suggestions by which these objects might be carried out as follows: first that a series of "talks upon health topics" might be held for patients in hospital or convalescent home during convalescence; secondly, that parties of artisans and housewives gathered by social or religious workers should be instructed in the matters concerned in elementary hygiene and that children from public elementary schools might be brought periodically for part of their ordinary school work, while special opportunities might be afforded to accredited district visitors; and, thirdly, that coöperation with voluntary visiting associations should be secured by the hospital authorities in order to help in the carrying out of directions given to the out-patients at the hospitals. In the event of resistance or opposition to such proposals by hospital authorities on the ground that they are fulfilling their work in the treatment of the sick and in the education of medical students it is suggested that pressure should be brought to bear, through the executive of the great hospital funds, by the charitable public ear-marking their subscriptions for institutions carrying out these or similar functions. While we are in general sympathy with any movement likely to be effective in promoting a useful knowledge of the laws of health and of the prevention of disease, it may be questioned if such a scheme is practicable and whether the hospitals can be expected to do more than coöperate. The education of the public in such matters is surely the province of educational authorities and of the medical departments of local boards or borough councils. The hospitals were instituted for the treatment of disease and in this they have shown commendable zeal in keeping abreast of modern advances; indeed, in most cases of pioneering them, by which their resources have become taxed to the utmost, so that the expression "gigantic resources" used by the writer of this note is hardly felicitous. To carry out effectively the suggestions made would entail considerable labour and expense and would require a special organisation. On

the other hand, such work might well be carried out at certain selected hospitals in populous districts under the ægis of, and at the expense of, the local sanitary or health board.

ELECTRIC LIGHT IN MARYLEBONE.

SURGEONS undertaking to perform operations with the aid of artificial light within the limits of the metropolitan borough of Marylebone will do well to assure themselves that they are not wholly dependent upon the electric light supplied by the corporation. Twice during the past two months a considerable district in and around Oxford-street has been plunged into darkness suddenly and without warning after the lamps had been lighted for the evening in shops and houses. These incidents have been made public by the newspapers and have forced themselves upon the notice of those who witnessed them, but minor failures of current have been frequent since the council of the borough undertook to light it after internal discussions and dissensions as to the expediency of its so doing which will be fresh in the minds of all. What the immediate causes of individual cases of extinction of light may have been we are not concerned to inquire; such events are, however, very unusual in other parts of London and the area supplied by the Marylebone corporation contains a residential district largely inhabited by medical practitioners and dentists and also a great number of private hospitals and nursing homes. The winter is a season of fogs and darkness in London, when at other times than at night artificial light is absolutely necessary and when its sudden failure where patients are seriously ill or are actually undergoing operations may mean not only inconvenience and anxiety but danger to human life. Gas is rarely provided coextensively with electricity in private houses, at any rate, and in many of these where electricity has for some time been in use oil-lamps and candles have ceased to be kept ready or have practically disappeared. It is to be hoped that if any legal remedy is found to be in the hands of those deprived of their light in the recent cases mentioned it will be strenuously enforced on public as well as on private grounds, and that any liability there may be for the inconvenience and loss suffered by shopkeepers and others will be brought home to all who can be made responsible.

THE MEDICAL ART IN THE HOMERIC POEMS.

THE Homeric Epics, as many of our readers know, afford a large amount of evidence as to medical and surgical knowledge among the ancient Greeks, the Iliad, in particular, containing statements which throw light upon the scientific knowledge of this extraordinarily gifted blend of races. By far the more numerous allusions to these subjects occur in reference to the sons of Asclepios, Machaon and Podalirius, the former of whom Homer styles the faultless or excellent, *ἀμύμων*, physician. His value to the warriors must have been great, for we are told that his one life was worth a host, so useful was he for extracting the cruel bronze and mitigating pain (Iliad XI., 500 and sequel). According to the "Little Iliad," however, the Greeks finally lost his irreparable services, for he was, it will be remembered, killed by Eurypylus. The medical officers of the expedition to Asia were not noncombatants any more than the officers of our Army Medical Service are, whatever official view is held on the matter; they took their part in many fierce fights. On one occasion when their services were sorely needed Patroclus explains that Machaon just wounded in action was lying in a tent needing medical assistance himself; whilst Podalirius was engaged in the plain fighting the Trojans. There were, however, other surgeons among the Hellenes than the semi-divine sons of Asclepios, for Idomeneus fetches another medical man to attend a comrade wounded in the thigh (XIII., 833-36); and at the commencement of Book XVI. it is explained that many of the more famous warriors lying wounded on the ships are being attended by physicians, *ἰητροὶ πολυφάρμακοι*. These other practitioners doubtless fought, if necessary, as did the two sons of Asclepios, but were only ordinary warriors, whereas the demigods were heroes and chiefs with many followers, coming as they did to join in the campaign with a fleet of 30 galleys. Those familiar with the story will recall that Podalirius and Machaon had been pupils of Cheiron the Centaur,[1] who had also given lessons to Achilles, so that the latter subsequently, during the siege of Troy, was able to render first aid to the wounded Eurypylus and "applied a pain-assuaging drug, bruised in his hands, and spread upon the wound, stanching the blood flow, and so the anguish healed." Achilles, indeed, appears to have made good use of his medical knowledge, for we have an elegant vase painting depicting him binding up the wounded arm of his comrade

Patroclus. Strangely, however, there is no allusion in our present Homer[2] of Patroclus receiving a wound that was bandaged by Achilles, and so the painting must refer to some statement by the rhapsodist poets relating to the Trojan war or to some part of Homer's epic now lost. It will be seen that the point of a dart has penetrated the buckler arm of Patroclus, probably with but little force, having first had to transfix the shield. The Duc de Luynes, in describing this tableau, says the manner in which Achilles applies the bandage to the arm of his friend indicates the hero's dexterity and that of his surgical contemporaries or of Cheiron the Centaur, his tutor, for it is done on a similar method as to-day. Achilles has commenced the enwrapping from the centre of the strip of material and not from the end of a roll, as advised by Hippocrates in cases of loss of blood. It is curious that Homer makes no allusion to medical men among the Trojans but speaks of wounded Agenor having his injury dressed by Helenus. He, however, is rather inclined to represent the Trojans as being more barbaric than the Achaians and may purposely have omitted to mention their medical arrangements. Incidentally he tells us the gods had their doctors like mortals, Paeon, their chief "medicine man," being absent when sadly needed by Venus,

[1] Cheiron may have been medical pupil of Paeon or even of Apollo, for Hesiod, in a fragment, tells us the latter "knew all the remedies."

[2] The Egyptian Homeric papyri give many additional lines in all the books of the Iliad to those in our manuscripts of Homer, as if the Alexandrian scholars, and Aristarchus in particular, had reduced the length of the Iliad by nearly a tenth.

a misfortune he doubtless deeply regretted. The beautiful patient was, however, healed by her mother Dione, her hand having been pierced by the spear of Diomedes.

WHAT IS WHISKY?

WE understand that the settlement of this question is promised by a conference of all the parties concerned. At the County of London Sessions on Jan. 4th the appeal case was mentioned and the appellants, through their counsel, asked that the hearing of the appeal should be postponed until next April. The bench decided to suspend the appeals which will accordingly come up for consideration in the Sessions House, Clerkenwell, on April 12th. It appears that negotiations have been proceeding between the representatives of the Islington borough council and a committee of the patent spirit distillers of the United Kingdom. Whatever may be the agreement arrived at, any proposals to standardise whisky or, we presume, any other potable spirit must receive the sanction of Parliament. It is suggested that a committee should be appointed by the Local Government Board to decide upon this question of a standard. In that case, and if a satisfactory conclusion be forthcoming, the appeal will probably be withdrawn.

DECEMBER AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean daily maximum.	Mean daily minimum.	Mean temperature for month.	Range of temperature.	*Days with rain.	Total fall in month.
Scilly	54	34	49	43	46·0	6	17	3·12
Jersey	56	28	48	40	43·9	8	18	3·54
Torquay	57	29	47	39	42·9	8	14	1·53
Bournemouth ...	55	24	44	35	39·5	9	13	2·16
Bath	55	21	44	34	39·0	10	11	1·81
Manchester	54	21	43	34	38·7	9	?	?
Birmingham ...	53	21	42	33	37·7	9	15	2·16
Nottingham ...	55	16	43	32	36·8	10	16	2·41
London	55	23	42	33	37·7	9	13	2·08
Paris	53	18	41	29	34·9	12	11	1·55
Berlin	50	10	33	26	29·2	7	14	1·90
Nice	63	28	50	37	43·5	13	3	0·24
Florence	60	24	47	36	41·6	11	10	4·23
Rome	61	30	53	42	47·4	11	15	3·37
Naples	65	34	52	44	47·9	8	12	4·46
Palermo	69	35	58	44	50·9	14	16	5·63
Malta	69	43	60	52	55·8	8	17	3·44
Algiers	70	39	61	49	55·1	12	18	6·89
Biarritz	59	30	49	40	44·7	9	18	8·08
Lisbon	64	36	56	46	50·9	10	2	1·06

* Days with at least 0·04 inch.

The above table gives the chief meteorological elements at many places at home and abroad for last month. Compared with the corresponding figures for November the temperature shows a very general and substantial decrease of warmth. London in November had a mean temperature of 47·0° F., against 37·7° during December, and nearly every other place except Scilly, Torquay, and Lisbon experienced a similar reduction. As a whole, however, the Continent lost considerably more heat than this country; Berlin was 18° colder than it was during November, Paris 11°, and Florence 10°. Perhaps the most striking feature in the temperature statistics for December was the relatively small range between the warmth of the day and night. As is almost invariably the case the isolated Scilly Isles had the least range—the remarkably small difference of 6°—but next in order comes Berlin, where the mean nocturnal temperature of 26° was only 7° lower than the mean temperature of the afternoon. Generally the month was more equable with us than abroad, but everywhere the diurnal range was rather less than usual. Scilly, which, with some of the most southern resorts abroad, successfully resisted the frost, had a greater mean daily warmth than Biarritz, Nice, and Florence, while the nights were milder than those at Rome and only slightly cooler than those at Naples and Palermo. Jersey and Torquay were also milder than Florence and the former milder than Nice, while the Devonshire resort had a mean temperature only about half a degree below that at Nice. Among the home resorts it is somewhat surprising to note the great difference in warmth between Torquay and Bournemouth, as well as the close resemblance between the figures of London and Birmingham. The warmest, and also one of the most equable of the foreign places, was Malta, where the temperature approximated very closely to that of the Channel Islands during an ordinary May. Abroad the weather was more rainy than during November except at Nice and Lisbon, but only at Biarritz and Algiers was the rain frequent as well as heavy. Nice had less rain than most places on the Riviera and also much sunshine, but the finest place of all the stations was probably Lisbon, where, except on two or three days, the month was remarkable for its fine, bright weather. Along the south coast of England the sunshine averaged rather more than two hours per day.

THE EMPIRICAL ORIGIN OF DRUGS.

IN the *Progrès Médical* of Oct. 20th, 1906, Dr. J. Noir deals in an interesting manner with the origin of drugs. He points out that modern medicine owes much to the empiricism, the folklore, the superstition, and even to the prejudices of past ages. It is obvious that in early times it was impossible for the physicians of the day to try all known plants for all known diseases. Some basis of selection being required, it occurred to these early physicians, deeply imbued as they were with religious and mystical ideas, that the Creator had not only endowed men with maladies but had also put within their reach appropriate remedies. They thought, indeed, that the Creator had indicated which remedies were to be used in special cases by causing plants to bear physical resemblances to the maladies for the cure of which they were intended. This theory dates back to a remote antiquity and it was generally entertained during the Middle Ages. Though fantastic, and now discredited, it served, however, a useful purpose, since it brought to light many remedies that otherwise would probably never have been known. Dr. Noir mentions several interesting examples of the empirical origin of drugs. The colour and shape of the chestnut (*le marron d'Inde*) were once considered to indicate its usefulness in the treatment of hæmorrhoids. The narcotic properties of opium are considered first to have been known through the recognition of a faint resemblance between a poppy capsule and a human head. The little centaury possesses undoubted febrifuge properties but these might never have been discovered had it not been for the early empiricists who recognised in the four angles of the stem a sure indication of the proper sphere of usefulness of the plant in quartan fever. Indeed, they went so far as to reserve the triangular stems of centaury for the treatment of tertian fever. The demulcent properties of the lichens were first discovered through the obvious resemblance of certain lichens to the ramifications of the bronchi. Polygonum, the astringent properties of which are still sometimes employed in the treatment of dysentery, obtained a place in the ancient materia medica simply because the folds of the root resemble the loops of the intestines, thus clearly indicating its natural use. It is not surprising that so empirical a basis of selection should

have led to erroneous results. For example, the mandrake (mandragora) held high place in mediæval medicine owing to a resemblance between the roots and the human body. But, rightly or wrongly, mandrake is no longer used in medicine. There is, no doubt, some credit due to the early empiricists but it is probable that the properties of many remedies were originally discovered by accident. However, modern medicine owes much to ancient superstition and empiricism; indeed, it may be said that empiricism is still a potent force in medicine and it is doubtful whether it ever will be entirely eliminated from the therapeutic art.

RECOVERY FROM CEREBRO-SPINAL MENINGITIS UNDER INJECTIONS OF COLLARGOL INTO THE SPINAL CANAL.

COLLARGOL is a colloid, allotropic, soluble form of silver which was introduced by Credé in 1897 as an internal antiseptic. It may be administered by inunction, by the mouth, or by intravenous injection. Brilliant results have been reported from its use in infective disease by Professor Netter and others. At a meeting of the Société Médicale des Hôpitaux of Paris held on Oct. 19th, 1906, M. F. Widal and M. Louis Raymond reported a case of cerebro-spinal meningitis in which a remarkable effect had been obtained from injecting collargol into the spinal canal. A woman, aged 31 years, was admitted into hospital on Nov. 14th, 1905, suffering from continuous headache with exacerbations which were provoked by the slightest sound or exposure to light. The neck was rigid and there were backache and Kernig's sign. The knee-jerks were exaggerated. The meningeal streak was easily obtained. The left pupil was more dilated than the right. The temperature was 102·2° F. Lumbar puncture yielded turbid fluid containing cells, principally polynuclear, and meningococci. Other symptoms—retention and incontinence of urine and mental obnubilation—developed. On the 21st the temperature was 104°, the pulse (which previously had been 120) rose to 144, and a fatal result seemed imminent. Lumbar puncture yielded fluid which was scarcely clouded. Five cubic centimetres of a 1 per cent. solution of collargol were injected into the subarachnoid space. Some hours later improvement was evident; the patient could understand questions, although she did not answer them. On the following day she could answer and the temperature had fallen to 100·7° and the pulse to 112. Recovery was interrupted by an attack of pneumonia but eventually was completed. During the whole of the disease polynuclear cells predominated in the cerebro-spinal fluid. This has been shown by Widal, Sicard, and Ravaut to be the rule in acute non-tuberculous meningitis. During convalescence lymphocytes become predominant. In this case the total number of leucocytes in the cerebro-spinal fluid fell from 10,000 per cubic millimetre on admission to 671 when the symptoms were at their worst and the number of meningococci visible in the fluid was greatest. Four days after the injection of collargol the number of leucocytes rose to a height never before attained—14,000 per cubic millimetre. Most of the meningococci then seen were intracellular and there were also in the cells chocolate-coloured masses of collargol of varying size. Two days later only a few meningococci could be seen and these were dead, for they yielded no cultures on gelose. Netter has reported several cases of cure of cerebro-spinal meningitis by inunction or injection of collargol. Barth, Mauban, Papillon, and Esbach have published cases of recovery following intraspinal injection. Recovery from cerebro-spinal meningitis may take place spontaneously. But in the case reported above the rapid improvement and the remarkable changes in the cerebro-spinal fluid showed the beneficial action of the injection. At the same meeting Professor Dopter reported the case of a young soldier who had suffered for 20 days from cerebro-spinal meningitis which did not yield to ordinary treatment. 0·05 of a gramme of collargol was injected into the spinal canal. On the following day the temperature had fallen from 106° to 103·2°, and the mental condition was improved. Recovery was then uninterrupted.

THE COLD MEAL.

THE solubility of most substances is increased by warmth and that fact alone suggests that the cold meal must be less digestible than the meal which consists of warm food. It is conceivable also that for the purposes of easy digestion the nearer the constituents of food are to a liquid state the more easily assimilable they must be. Certain fats are solid and hard at ordinary temperatures—as, for example, mutton fat or suet—while others, such as butter, are liquid at the body temperature, and the state of liquid being more readily amenable to digestive processes than the state of solid it follows that butter is more easily absorbed than suet. As a matter of fact, it is so physiologically. Frequently in chemical reactions, though the substances concerned refuse to act in the cold, yet on the slightest warming a mutual action takes place and soon is complete. Apart from these considerations warm food stimulates the flow of the digestive juices and thus prepares a condition decidedly in favour of its dissolution. As if to compensate for the uninviting and possibly, at the outset, depressing aspect of a cold meal it has been observed that the person to whom for some special, and it may be unfortunate, circumstances a warm meal is the exception commonly exhibits a desire to indulge in alcoholic stimulants. So far, therefore, the argument is opposed to the cold meal. On the other hand, very hot food may give rise to mischief, chiefly because during the meal there are almost certain to be considerable alternations of temperature which are calculated to excite a condition favourable to the production of local injury to the stomach. In point of fact, nothing which is very much hotter or colder than the stomach need be allowed to pass into that organ. Even an ice can be suffered to melt in the mouth before it is swallowed, and physiological considerations teach that such would be a wise course to adopt. The lower animals, as a rule, refuse hot food and when their food is animal prey the temperature of it is within a degree or two of that of their own bodies and, curiously enough, the ideal temperature of the food for man would appear to be that which is neither higher nor lower than his own body. Somewhere between 45° and 130° F. may be regarded as the limits of safety for food, and for drink the discreet range would be 50° as the minimum and 90° as the maximum.

SLUM DWELLINGS AND THEIR SUBSTITUTES.

THE accidental burning to death of a child, aged three years, whose clothing had been set on fire in a house in Grotto-place, Southwark, afforded recently an occasion to Dr. F. J. Waldo, coroner for the City and for Southwark, to call public attention to a dangerous and insanitary area in which he has for some time taken an interest. As medical officer of health of Southwark Dr. Waldo was able to call attention some years ago to three areas, known as Webber-row, King's Bench Walk, and Grotto-place, as insanitary areas which should be dealt with as such, and the London County Council's committee recommended that two of them should be included in a rebuilding scheme but was of opinion that Grotto-place did not urgently require reform. Dr. Waldo's observations at the late inquest, as reported in the *Globe*, show what Grotto-place is like. From there we gather that the houses have two rooms only, the lower one being below the level of the street. Each room

has one window only in front and none at the back, and the inhabitants of opposite houses can shake hands with one another from their upper windows across the intervening foot-way. The coroner called them cupboards, in which the circulation of fresh air was impossible, and it is to be hoped that the attention drawn to them by him may accelerate their much-needed demolition. Curiously enough another inquest held a few days later by the same coroner was on a child overlain by her mother in Webber-street, above mentioned. This occurred in model dwellings erected by the London County Council in substitution for the old ones, and it was elicited that the rents were as follows: one room, 5*s.*; two rooms, 6*s.* 11*d.* The former price certainly seems unduly high compared with the fluctuating and uncertain incomes of the working classes, and high rents are naturally conducive to overcrowding.

THE SURGICAL TREATMENT OF STERILITY IN THE MALE.

AT a meeting of the American Association of Genito-Urinary Surgeons held at New York last year Dr. Edward Martin of Philadelphia brought forward a new and simple operation for sterility in the male, which is published in the *Boston Medical and Surgical Journal* of Dec. 6th, 1906. Sterility is an occasional result of gonorrhœa when it is due to occlusion of the vas deferens on both sides from double epididymitis. It is supposed that the occlusion occurs in the tail of the epididymis, where induration often may be felt. Adopting this view, Dr. Martin, in conjunction with Dr. Carnet, Dr. Levi, and Dr. Pennington, performed experiments on dogs to ascertain whether it was possible to short-circuit the vas deferens and the head of the epididymis and to provide a new route for the spermatozoa. The vasa on both sides were cut and ligatured a short distance from their origin in the epididymis and the proximal end was split and sutured into an opening made in the head of the organ. Subsequent ejaculations contained a normal number of motile and seemingly healthy spermatozoa. There appeared little tendency towards closure by cicatrisation of the communication between the vas and the epididymis. The question remained, however, whether the spermatozoa thus short-circuited were fertile, since these bodies normally undergo some development in their passage through the epididymis. In the first case, in which the operation was performed in man, there was the usual history of repeated gonorrhœa, double epididymitis, a childless marriage, a wife treated by gynæcologists, and, finally, the discovery of azoospermia. The operation was performed on the left side; 14 days later the semen showed active motile spermatozoa, although not as many as normal. Marital relations were resumed 11 days after the operation and 281 days later the patient's wife was delivered of a child who strikingly resembled him. The spermatozoa again disappeared but returned after a long course of prostatic massage. The operation was performed in five other cases. One patient was lost sight of and conception did not follow in the other four cases, but in each there were other reasons for this result. The technique of the operation is very simple. Dr. Martin has operated under local anæsthesia without giving pain but he prefers to use ether. An incision one and a half inches long is made over the head of the epididymis in the back of the scrotum. The vas is freed from the cord. The epididymis is exposed and a small fragment of it is snipped out. A slit one-third of an inch long is made in the vas. This is best done with a sharp-pointed tenotome and a probe-pointed knife, similar to that used in incisions into the lacrymal duct. Four sutures, of silk or fine wire, are then passed with needles slightly curved, like those used by ophthalmic surgeons. The needle is passed from the outer to the inner surface of the epididymis, and thence from the inner through the outer surface of the vas, one stitch being placed at either end of the incision and one at each side. The sutures are not tied until they are all passed. The tunica vaginalis is closed by buried catgut sutures and the wound in the skin by a continuous suture of either silk or catgut. The testicle is swathed in sterile cotton and immobilised by strapping. The patients were allowed to get up on the following day and to resume sexual relations within a week.

INEBRIATE REFORMATORIES AND DISEASE.

THE case of a woman named Rippin, charged before Mr. Fordham with being "drunk and incapable," brought out curious and undesirable conditions attaching to confinement in the institution for the care of inebriates carried on by the London County Council at Farmfield. The defendant had been sent to the Farmfield Inebriate Reformatory for a period of three years but had been let out on licence after two years because she was suffering from Bright's disease and because it was contrary to the regulations of the Farmfield Reformatory that persons suffering from disease requiring constant medical attention should be kept there. Owing to the comments made by Mr. Fordham when the case first came before him a gentleman from the solicitor's department of the London County Council attended at the adjourned hearing and stated that steps would now be taken to place the woman in the Eastern Counties Home and also that the County Council had modified views previously held by it as to the desirability of letting out inmates of such homes on licence. Mr. Fordham is to be congratulated upon having called public attention to a matter of some importance. The cure of inebriates is frequently a process the ultimate success of which is doubtful, and satisfactory results are likely to be rendered impossible and good work to be thrown away if the period of confinement is arbitrarily curtailed; at the same time, the inebriate whose persistence in the drink habit has rendered him liable to such detention is not unlikely to be found subject to disease requiring medical attention. That such a person needs to be kept in an inebriate home no less than his healthier fellow-drunkard hardly seems to be a matter for argument.

THE CULTIVATION OF MEDICINAL OPIUM IN INDIA.

A CORRESPONDENT to the *Times* has recently pointed out that although enormous quantities of opium are produced in India we are almost entirely dependent on Turkey for supplies of medicinal opium. The Indian drug contains only from 4 to 8 per cent. of morphine—a percentage too low for the economical manufacture of morphine, codeine, and other preparations of opium. The manufacturer prefers the Turkish variety, containing from 12 to 18 per cent. of morphine. Owing to measures which are being taken throughout the world to repress the opium habit[1] the area under poppy cultivation in India will dwindle year by year, and the suggestion is made that a part of the land should be devoted to the cultivation of opium sufficiently rich in morphine to be employed in medicine. It has already been experimentally shown that opium prepared from poppies grown in the hilly districts of the Himalayas yields 50 per cent. more morphine than that obtained from plants grown in the plains.[2] It rests with the Government of India to initiate experiments to determine whether it is not possible to produce on the commercial scale an opium containing as much morphine as the Turkish variety. It is very probable that something may be done in

[1] See THE LANCET, Oct. 13th, 1906, p. 1010.
[2] Pharmaceutical Journal, Sept. 29th, 1906, p. 337.

this direction because no less than 587,000 acres were under poppy cultivation in India in 1904–05, and considerable reductions will be effected in the area under cultivation during the next few years. The growers are licensed by, and sell the products to the Government and unless the difficulty is met with energy great hardships will be inflicted upon the cultivators. India has passed through many similar agricultural troubles. When the demand for quinine reached large dimensions the Dutch ascertained by experiment which of the many species of cinchona gave the highest yield of the alkaloid and planted that species in Java on a large scale with very great success. About the same time over 1,000,000 cinchona trees were planted by the Government in India, but unfortunately the species chosen gave a poor yield of quinine, with a result that the trees had to be replaced. Thus the Dutch maintained the first position as producers of quinine to the detriment of India. Then, again, it is well known that the commercial production of artificial indigo has crippled another huge industry in India which was formerly the centre of the cultivation of indigo. The Government of India and its botanical advisers are now offered an excellent opportunity of atoning for the cinchona blunder, made in a former generation, by finding out methods of cultivating and producing opium as rich in morphine as the Turkish variety. India would then be able to share with Turkey the market for medicinal opium, the demand for which increases year by year.

THE PLAGUE FLEA AND ITS DESTRUCTION.

IT has been definitely ascertained that the flea from a plague-infected rat contains the bacillus pestis in its stomach and that if a susceptible animal such as a rat, guinea-pig, monkey, or rabbit be placed in a room with infected fleas, the animals just mentioned will contract plague. The bacillus pestis will also be found in the fæces of the fleas and this excrement when rubbed into a susceptible animal's skin will prove fatal to that animal. The flea, therefore, either by direct inoculation, by bite, or by the fæces gaining access to the body by abrasion of the skin, conveys plague from animal to animal and place to place and from animal to man. Such is the substance of the observations made by Dr. John A. Turner, executive health officer of the Bombay municipality, in a paper read before the Bombay Medical and Physical Society in September, 1906. In some experiments which he was instrumental in having made the indications were clearly that the rat and the flea are disseminators of plague and therefore they must be exterminated. The flea persists in a room after the use of perchloride of mercury and even after sulphur fumigation. "Pesterine," a crude form of petroleum, was tried with the result that its application was found to render the room free from fleas. The plan which was adopted was to sprinkle the "pesterine" on the floor of the room to be disinfected and to spread it by means of a brush over the ceiling and the upper parts of the walls not omitting the lower parts, carefully going over all nooks, cracks, and ledges. A quantity is further poured down any rat hole seen in the floor. After 24 hours the room so treated is regarded to be fit for re-occupation. Pesterine appears also to be useful for disinfecting latrines and for killing flies, mosquitoes, and other insects and their eggs and larvæ. It seems also to arrest putrefaction and its application checks the production of offensive smells. As an instance of its efficacy in destroying plague-contaminated fleas the following example, amongst many others, is given. A case of plague occurred in the room of a certain house on June 5th, 1906, the patient being removed to hospital two days afterwards. Guinea-pigs were kept in the room on the day of the outbreak and before disinfection. One of them was examined on the next day and was found to be full of fleas. The place was disinfected with pesterine in the manner described and the same two guinea-pigs infested with fleas were put in the room after disinfection. As a control two flea-free guinea-pigs were put in the room after disinfection and all four guinea-pigs were examined on the next day with the result that no flea was found. Finally, the guinea-pigs put in the room before the application of pesterine afterwards died from plague, while the other two remained alive. There was no doubt of the existence of rat fleas in the room before disinfection.

THE MANUFACTURE OF LEAD PAINTS AND COLOURS.

IN THE LANCET of July 14th, 1906, p. 107, we referred to a draft of regulations which, at the instance of the Home Office, the Secretary of State had issued in regard to the manufacture of lead paints and colours. These regulations are intended to supersede the existing special rules made under Section 79 of the Factory and Workshops Act, 1901. Employers were invited to send in any objections which they felt called upon to make with respect to these draft regulations. After consideration of the objections which were subsequently sent in the Secretary of State has now decided to make certain amendments in order to meet the difficulties pointed out by persons concerned. These alterations, we understand, can be made without materially affecting the utility of the regulations which will now be accepted by manufacturers without further objection. The provisions of the Act, however, require that the draft shall be republished as amended and in accordance with this requirement the Secretary of State has issued a formal notice intimating that further objections must be sent in by Jan. 17th, 1907.

THE STANDARDISATION OF DISINFECTANTS.

IN his annual report recently presented to the Ministry of Agriculture Mr. H. Watkins-Pitchford, the Government bacteriologist and analyst of the laboratory at Pietermaritzburg, gives an interesting summary of his experiences with the methods of determining the efficiency of disinfectant preparations. He concludes that while no entirely satisfactory system of standardising disinfectants exists at present the method devised by Dr. S. Rideal and Mr. J. T. Ainslie Walker appears to point the way to this desired end. The results, he says, obtained by different workers and even by the same worker employing this method frequently vary within unallowable limits. These variations he attributes to the following causes: (*a*) Unnoticed and trivial variations in technique; (*b*) differences in the resisting power of various strains of the same organisms and differences in physical characters of the growths of different organisms; (*c*) probable variation in the germicidal value of different samples of the same disinfectant; (*d*) too short a period for the final incubation; (*e*) too great intervals between the strength of dilutions of the agents and durations of exposure of the organism to their action; (*f*) the necessity for introducing suppositious symbols when the two tables do not exactly coincide; (*g*) the acceptance as final of the results of only one series of observations; (*h*) other causes not yet determined; and lastly (*i*) the absence of a complete code of conditions rigid in every particular. The various disinfectants, he finds, possess specific powers over, or "germicidal affinities" for, particular micro-organisms. Discrepancies in the results obtained by this method would, he thinks, largely disappear if the carbolic co-efficient were taken to be the mean of several co-efficients obtained under standard conditions. Lastly, he suggests that the relative strength of a simple disinfectant might with advantage be expressed in terms

of its value for the typhoid bacillus alone, the determination of its germicidal powers for organisms other than the typhoid bacillus being made the subject of a separate inquiry. Although for practical purposes it might suffice to state the relative value of any agent with respect to the typhoid bacillus alone, yet the ideal estimate of its utility as a general disinfectant would be secured, he thinks, by obtaining the mean of its several true carbolic co-efficients for all the organisms which can be cultivated in liquid media and with which the agent is required to deal.

THE Department of Public Health of Queensland in a bulletin dated Nov. 24th, 1906, reports that after an interval of 151 clear days bubonic plague has again made its appearance in Brisbane. 1 case was reported on Nov. 16th and 1 on the 23rd. Both patients were males, both died, and in both the diagnosis was confirmed by bacteriological examination. A bulletin dated Dec. 1st states that no further cases or suspicious cases occurred during the week ended on that date.

Professor Sir Rubert William Boyce, Professor Ronald Ross, C.B., and Dr. John Lancelot Todd have been given his Majesty's Royal licence and authority respectively to accept and wear the Cross of Commander of the Order of Leopold II., which decoration has been conferred upon them by the King of the Belgians, Sovereign of the Independent State of the Congo, in recognition of their valuable services to the cause of medical science.

Mr. R. Henslowe Wellington, L.R.C.P. Lond., M.R.C.S. Eng., barrister-at-law, deputy coroner for Westminster lecturer on medical jurisprudence at the Westminster Hospital Medical School, and secretary of the Medico-Legal Society, has been elected a Corresponding Member of the Société de Médecine Légale de France, Paris.

THE usual clinical lectures and demonstrations at the Hospital for Sick Children, Great Ormond-street, on Thursday afternoons at 4 P.M., for the session January to March, will commence on Jan. 17th, when Dr. A. F. Voelcker will lecture on Peri- and Endo-carditis.

SALFORD SEWAGE DISPOSAL.—Salford has long been struggling with the difficulties of sewage disposal. A scheme by which it is hoped that these difficulties will be overcome is now approaching completion. Two bays of aerating filters about 3466 square yards in extent, which were begun last year, have been completed. These, with two others of the same area, are now working satisfactorily and two more bays are being proceeded with. Up to the present the outlay on the sewage works reconstruction scheme has been £124,535.

KALYRA SANATORIUM.—Kalyra Sanatorium for tuberculous patients is in South Australia, near Adelaide. In his report on the work of the institution for the 12 months ended June 30th, 1906, Dr. C. H. Reissmann states that during that period 117 patients were admitted, 32 were discharged "arrested," 44 were discharged "improved," 40 were discharged "unimproved," and four died. By "arrest" he means absence of all evidence of disease other than fibroid transformation or scarring. There must be no evidence of active disease either in the chest or elsewhere and no râles, rhonchi, or other adventitious sounds must be audible. There must be neither cough nor expectoration and no tubercle bacilli discoverable. The pulse, temperature, and respiration must be normal before and 20 minutes after returning from hill-climbing exercise. Dr. Reissmann considers that results based on tests less rigorous are misleading and tend to bring sanatorium treatment into disrepute, for readmissions will be numerous. He gives no details of treatment but promises to deal with this part of the subject in the *Australasian Medical Gazette*.

BRITISH MEDICAL BENEVOLENT FUND.

AT the December meeting of the committee 25 applications were considered and sums amounting to £185 voted in relief to 19 of the cases. Two applications were passed over and four were postponed for further inquiry. An abstract of the cases assisted is appended:—

Daughter, aged 25 years, of late M.B. Lond., who practised in the West Ind. Just self-supporting, but recently had to borrow £10 to pay her mother's funeral expenses. Recommended by Dr. G. Fielding Blandford. Voted £5 in one sum.

Daughter, aged 56 years, of late F.R.C.S., L.S.A., who practised in Norfolk. Income £17 a year; has endeavoured to support herself for the last ten years by letting lodgings but has now broken down in health and has lost friends who could have helped. Recommended by Dr. R. L. Bowles and Dr. C. K. Bowes. Voted £3 in 12 monthly instalments.

M.R.C.S., aged 52 years. Has practised for many years in Devonshire but is now obliged to give up on account of ill-health. Recommended by Dr. C. A. Hingston. Voted £15 in 12 monthly instalments.

Son, aged 22 years (applying on behalf of younger members of the family), of M.R.C.S., L.R.C.P., who practised in Kent and in Lancashire but was killed a few months ago in a motor car accident. The estate will only be able to pay about 5s. in the pound and a fund has been raised by the medical men of the towns in which the deceased practised to relieve the immediate need of the family and to send two of the boys out to Canada in the spring. Recommended by Dr. A. J. Alliott. Voted £10 to be added to the fund mentioned.

Daughters, aged 53 and 51 years, of late L.F.P.S. Glasg., who practised in Scotland. Live rent free in house which belonged to their father and endeavour to exist by keeping a small shop. The elder sister has been an invalid for many years. The profits of the shop are very small and recently the applicants have been obliged to part with articles of furniture to avoid destitution. Recommended by Dr. William Frew. Voted £12 in 12 monthly instalments.

Daughter, aged 56 years, of late M.R.C.S., L.S.A., who practised in Bucks. Income insufficient for maintenance and is prevented earning a living by deafness and other infirmities. Recommended by Dr. E. Casey. Voted £5 in one sum.

Daughter, aged 46 years, of late M.R.C.S., L.S.A., who practised in London. Used to maintain herself as a secretary and companion but has had a long illness and is quite incapacitated. Is a candidate for the U.K.B.A. Recommended by Mr. Henry Stear, honorary local secretary. Voted £10 in two instalments.

Widow, aged 59 years, of L.R.C.P., L.R.C.S. Edin., who practised in London and Liverpool. Quite unprovided for at husband's death. Health now very bad. One son, aged 30 years, self-supporting but not able to help. Relieved eight times, £81. Recommended by Dr. C. E. Underhill. Voted £12 in 12 monthly instalments.

Daughter, aged 59 years, of late M.D. Edin, who practised in Herts. Has maintained herself until recently but is now obliged to nurse an invalid sister—an annuitant of this fund. Recommended by Dr. T. Orme Dudfield. Voted £12 in 12 monthly instalments.

Widow, aged 63 years, of M.R.C.S., L.S.A., who practised in Essex. Only income a small pension; children unable to help; health indifferent. Relieved four times—£44. Recommended by Dr. J. E. Nevins, honorary local secretary. Voted £5 in one sum.

Daughter, aged 48 years, of late M.R.C.S., who practised in Yorkshire. Has nursed her mother for the last ten years and has now entirely broken down in health. No income. Relieved once, £12. Recommended by Mr. H. B. Maingay. Voted £12 in 12 monthly instalments.

Daughter, aged 62 years, of late L.S.A., who practised in Norfolk. Permanently incapacitated and only income £20 a year from the Royal Hospital for Incurables. Relieved five times, £42. Recommended by Dr. S. J. Barton. Voted £6 in two instalments.

Widow, aged 39 years, of M.R.C.S., L.S.A. who practised in Leicestershire. No income; lets lodgings and is at present in great and unavoidable distress. Five children, aged 18 to ten. Relieved six times, £82. Recommended by Dr. W. M. Renton. Voted £20 in 12 monthly instalments.

Widow, aged 66 years, of M.R.C.S, L.S.A., who practised in Staffordshire. Income only £6 a year; children unable to help. Is a candidate for Epsom College. Relieved three times, £32. Recommended by Mr. H. W. Kiallmark. Voted £12 in 12 monthly instalments.

Daughter, aged 52 years, of late L.S.A., who practised in Staffordshire. Maintained herself as a governess for many years but is now incapacitated for any permanent work and dependent on a relative. Relieved five times, £56. Recommended by Dr. A. Boswell. Voted £6 in six instalments.

Widow, aged 61 years, of M.R.C.S. Eng., L.R.C.P. Edin., who practised in London. Income £24 a year from the rent of a house, but has been obliged to borrow to pay for necessary repairs. Relieved seven times, £78. Recommended by Dr. William Ewart. Voted £12 in 12 monthly instalments.

Daughter, aged 55 years, of late F.R.C.S., who practised in Cheshire. Maintains herself as a companion, &c., but at present has no engagement. Relieved once, £5. Recommended by Dr. W. Rigden. Voted £5 in one sum.

Widow, aged 40 years, of L.S.A., who practised in Cheshire. Supports herself as a lady help but the salary is insufficient for the maintenance of her only child—a son, aged 11 years, who is a candidate for Epsom College. Relieved once, £12. Recommended by Mr. H. W. Kiallmark. Voted £12 in 12 monthly instalments.

Widow, aged 64 years, of M.R.C.S., L.S.A., who practised in Staffordshire. Only income a pension of £20 a year. No children; health indifferent. Relieved eight times, £51. Recommended by Mr. H. Parsons Smith. Voted £6 in six instalments.

THE LANCET RELIEF FUND.

THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., M.D. Lond.), the President of the Royal College of Surgeons of England (Mr. HENRY MORRIS), the President of the General Medical Council (Dr. DONALD MACALISTER, M.A., LL.D., F.R.C.P.Lond.), Mr. THOMAS WAKLEY, F.R.C.S.Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor.

Almoners.

FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Scope of the Fund.

WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

Chronic Cases ineligible.

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be benefited permanently thereby.

Eighteenth Annual Report of the Almoners,

For the year ending December 31, 1906.

IN presenting their Eighteenth Annual Report the Almoners have to record that the balance in hand on Dec. 31st, 1905, was £232 13*s.* 1*d.*, to which, on Jan. 1st, 1906, the Proprietors of THE LANCET added the sum of £300, making, with £1 repaid on loans, a total sum of £533 13*s.* 1*d.* available for grants during the year 1906.

The number of applications received by the Almoners during the year for assistance was 73, of which number 20 were rejected by the Secretary as quite outside the scope of the Fund; 8 were declined by the Almoners after due consideration; 2 applicants wrote acknowledging ineligibility after reading the regulations of the Fund; 10 Application Forms failed to be returned—doubtless owing to the applicants realising that their cases were not of a nature qualifying them to receive assistance from the Fund; 1 applicant had a self-propelling invalid chair, costing £6 7*s.* 9*d.*, loaned for his use; and 32 applicants were relieved by gifts or loans of money ranging from £5 to £25. The relief of these 33 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £460 7*s.* 9*d.*—a sum considerably above the normal income of the year, omitting balances brought forward and possible receipts from repayments of loans, and the largest sum voted in any one year since the inauguration of the Fund in 1889. The total amount voted by the Almoners since the commencement of the Fund is £5643 6*s.* 3*d.*

The Almoners continue to receive expressions of gratitude for the assistance which they have afforded to applicants—in some urgent cases the relief was given on the day on which the application was received. As in past years, the timely help of the Fund has enabled more than one applicant to keep his practice together when pressing claims threatened to destroy his home and his means of livelihood and the widow and the orphan have also been helped at the moment of their greatest need.

The cases of "chronic" distress brought to the notice of the Almoners during the past year have not decreased in number; on the contrary, they have materially increased. Whilst sympathising with the applicants in their distress, the Almoners are quite unable to help them. The Fund at their disposal is not intended for such cases, and would be

exhausted in the first month of the year were such claims to be met. The Almoners must again emphasise the fact that THE LANCET Relief Fund exists to meet cases of *sudden emergency*; and they will be especially obliged if gentlemen giving testimonials or recommending cases will bear this in mind.

Mr. Henry Morris having succeeded Mr. John Tweedy as President of the Royal College of Surgeons of England in July last, thereupon became an Almoner of the Fund, and kindly consented to act as such. The Almoners desire to record their warm appreciation of the valuable services rendered to the Fund by Sir John Tweedy during the period of his almonership, and to congratulate him upon the honour of Knighthood conferred upon him by His Majesty.

In conclusion, the Almoners would point out that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund, but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides*, as well as of the suitability, of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications

(Signed) R. DOUGLAS POWELL. HENRY MORRIS.
DONALD MACALISTER. THOMAS WAKLEY.
THOMAS WAKLEY, Jun.

January 7th, 1907.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1906.

Dr.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1906	232	13	1
,, Proprietors of THE LANCET, Jan. 1st, 1906 ...	300	0	0
,, Repayment of Loan :—			
Case No. 591	1	0	0
	£533	13	1

Cr.	£	s.	d.	£	s.	d.
By Loans :—						
Case No. 669	20	0	0			
,, 688 (Invalid chair)	6	7	9			
,, 690	20	0	0			
,, 693	15	0	0			
				61	7	9
By Gifts :—						
Case No. 661 (voted 1905) ...	20	0	0			
,, 667	25	0	0			
,, 668	5	0	0			
,, 670	10	0	0			
,, 671	25	0	0			
,, 672	20	0	0			
,, 673	20	0	0			
,, 674	20	0	0			
,, 675	10	0	0			
,, 677	4	0	0			
,, 678	10	0	0			
,, 679	10	0	0			
,, 680	5	0	0			
,, 681	20	0	0			
,, 682	20	0	0			
,, 683	10	0	0			
,, 684	10	0	0			
,, 685	10	0	0			
,, 686	20	0	0			
,, 687	10	0	0			
,, 689	5	0	0			
,, 691	10	0	0			
,, 692	15	0	0			
,, 694	5	0	0			
,, 695	10	0	0			
,, 696	5	0	0			
,, 697	10	0	0			
,, 698	10	0	0			
,, 699	10	0	0			
,, 700	25	0	0			
,, 702	10	0	0			
				399	0	0
Balance at Bank, Dec. 31, 1906 ...				73	5	4
				£533	13	1

I find by the Bankers' Book that the actual Balance on Jan. 1st, 1906, to the credit of the Fund was £232 13*s.* 1*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1906.

The balance at the Bank on Dec. 31st, 1906, was the sum of £73 5*s.* 4*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

January 3rd, 1907 HENRY A. PITMAN, Hon. Auditor.

THE WORKMEN'S COMPENSATION ACT, 1906.

THE Workmen's Compensation Act is here translated into ordinary language; its various parts are brought into consecutive order, references being given to the clauses, subsections, and pages, in order that medical men who have the leisure may refer to the printed Act without much trouble, and those who have not may be placed in possession of its details, so that they may be able to deal with their own affairs under the Act, or when asked by patients, as many of them will be, to give them information which will be of service. A correspondent with intimate knowledge of the Acts of 1897 and 1900 has added in brackets comments which we think may be of use, but we shall return to the consideration of the Act in an early issue of THE LANCET.

SHORT TITLE.

THE WORKMEN'S COMPENSATION ACT, 1906.

1. (1) (p. 1). A workman suffering personal injury by accident arising out of and in the course of his employment shall be compensated in accordance with the First Schedule o the Act.

First Schedule. 1. (1) (p. 18). If at death the workman leaves dependants on his earnings, his employer shall pay a sum equal to three years wages, or £150, whichever is the larger, but not exceeding in any case £300. If the workman has not been employed for three years by the employer, then the amount shall be calculated at 156 times his average weekly earnings while he has been employed.

(2) If the dependants are only partially dependent upon the earnings the amount is to be assessed by agreement or arbitration.

(3) If he leaves no dependants, reasonable expenses of medical attendance and burial not exceeding £10 shall be paid.

1. (1) (b). Where total or partial incapacity results from the injury a weekly payment not exceeding 50 per cent. of the average weekly earnings, not to exceed £1 per week, shall be paid.

1. (1) (b) (p. 19). If the workman is under 21 years of age and his weekly earnings under 20s. he is to receive 100 per cent., instead of 50 per cent., of his average weekly earnings, not, however, to exceed 10s. per week.

[This latter clause will make an immense difference to the rates of insurance for the cheaper kind of laundry, factory, and domestic labour.]

First Schedule. 2. (17) (p. 22). After a weekly payment has been continued for not less than six months the employer may redeem the further payments by payment of a lump sum based on the cost of an immediate life annuity purchased from the National Debt Commissioners, equal to 75 per cent. of the annual value of the weekly payments, but nothing in this section is to prevent mutual agreements to settle.

[An annuity of 75 per cent. of £52 a year to a person of the age of 25 would cost about £700; this will bring home to everyone the importance of being covered by insurance.]

Second Schedule. (3) (a), (b), (c), (d), (e). Very stringent rules are made requiring any settlement whether made by committee, arbitrator, or by agreement to be registered at the county court, and the registrar may refuse to register, or the judge may within six months remove a settlement from the register, if it is thought that the settlement was obtained by "fraud or undue influence or other improper means."

[This is most important as it will prevent the sharp and unreasonable settlements which have been made by lay inspectors and unqualified men, late medical students or unqualified assistants who have been freely employed by certain insurance offices.]

1. (2) (a) (p. 1). The employer shall not be liable in respect of an injury which does not disable for at least one week.

First Schedule. (a) (p. 19). If the incapacity lasts less than two weeks no compensation shall be payable in respect of the first week.

[These two clauses are giving great anxiety to employers and insurance managers, for it follows that in any disability lasting over a fortnight the workman will be able to claim compensation from the date of the accident and therefore there will be great temptation to magnify slight injuries. If medical men have this clearly before them they will be chary of giving medical certificates before the expiration of the first fortnight after the accident, especially as this will not in any way prejudice the workman, for, as will be seen later, a medical certificate is not required to be sent with the notice of accident.]

1. (2) (c) (p. 2). A workman cannot claim compensation for injury if it is attributable to his "serious and wilful misconduct," unless the injury results in death or serious and permanent disablement.

[The Act of 1897 made no exception for death or serious injury.]

(3) Any disputed matters are to be settled as provided in the Second Schedule, p. 24—namely, by a committee, an arbitrator, or, in absence of agreement as to these, by a county court judge.

Second Schedule. (5) (p. 24). A judge may, if he thinks fit, summon a medical referee to sit with him as assessor.

[This is an innovation, and if it is acted on will constitute an ideal method of dealing with disputed claims, as the judge will be able to give his decision, after hearing an unbiassed medical opinion and after being able to ask any questions on the medical points that he may consider necessary.]

(4) If an action is brought against an employer independently of this Act and it fails the Court may assess the compensation due under this Act and deduct therefrom all or part of the cost caused by the bringing of the abortive action.

2. (1) (p. 2). Notice of the accident must be given "as soon as practicable" and before the workman has voluntarily left the employment in which he was injured and within six months of the accident or date of death; (a) and (b) (p. 3), however, provide that any defect or inaccuracy in the notice shall not be a bar to the proceedings if the employer is not thereby prejudiced in his defence, or if a failure to make a claim was occasioned by mistake, absence from the United Kingdom, or other reasonable cause.

2. (2) (p. 3). Notice of accident shall give the name and address of the person injured and state in ordinary language the cause of the injury and date of the accident and must be served on the employer by delivering it at his address or by registered letter.

[The questions of schemes of insurance of workmen, subcontracting, and bankruptcy of employers on pages 3, 4, 5, 6, and 7, are omitted as ordinary medical men would not be interested.]

7. (1) (p. 7). All members of the crew of any British ship are brought under the Act, and it was stated in the House of Commons that this includes lascars and other foreign seamen employed.

8. (1) (p. 9). Where a certifying factory surgeon certifies that a workman is disabled from earning full wages, or is suspended from work or that his death has been caused by either of the following diseases he or his dependants shall be entitled to compensation as if the disease was a personal injury by accident, under, however, certain special regulations set forth on pages 9, 10, 11.

Third Schedule.—Section 8.

Disease.	Description of process.
Anthrax.	Handling of wool, hair, bristles, hides, and skins.
Lead poisoning or its sequelæ.	Any process involving the use of lead or its preparations or compounds.
Mercury poisoning or its sequelæ.	Any process involving the use of mercury or its preparations or compounds.
Phosphorus poisoning or its sequelæ.	Any process involving the use of phosphorus or its preparations or compounds.
Arsenic poisoning or its sequelæ.	Any process involving the use of arsenic or its preparations or compounds.
Ankylostomiasis.	Mining.

8. (6). The Secretary of State may make orders extending the provisions of this section to other diseases, or injuries due to the nature of the employment not being injuries by accident, with or without modification.

8. (f). An employer or workman aggrieved by the action of a certifying or other surgeon in giving or refusing a certificate of disablement or in suspending or refusing to suspend a workman for the purposes of the section, can, under the regulations of the Secretary of State, have the matter referred to a medical referee whose decision shall be final.

9. (1) (pp. 12 and 13). The Act is extended to all servants of the Crown, except the naval and military, and the head of any department is to be deemed the employer.

10. (1) (p. 13). Power to the Secretary of State to appoint legally qualified practitioners as medical referees, their remuneration to be paid out of moneys provided by Parliament.

The following clause being important to the profession is quoted in full: "Where a medical referee has been employed as a medical practitioner in connexion with any case by or on behalf of an employer or workman or by insurers interested, he shall not act as medical referee in that case."

First Schedule. 1. (4) (p. 20). Any workman after giving notice of accident must submit himself for examination by a duly qualified medical practitioner provided and paid by the employer, if required, but by

(15) (p. 21), he shall not be required to submit himself for examination under paragraph (4) or (14) otherwise than in accordance with the regulations of the Secretary of State, or at more frequent intervals than may be prescribed in those regulations. When a workman has submitted himself to examination by a medical practitioner paid by the employer or himself, and either has within six days sent a copy of the medical report to the other, and in the event of no agreement being come to as to the workman's condition "the registrar of a county court on the application of *both parties* may on payment by the applicants of such fee not exceeding £1 as may be prescribed, refer the matter to a medical referee." The medical referee's certificate is to be conclusive evidence as to the matters so certified. If the workman refuses to submit himself to the examination of a medical referee, his right to compensation will be suspended until such examination has taken place.

(16) Any weekly payment may be reviewed at the request of employer or workman, and increased or diminished in default of agreement by arbitration.

(18) Any workman ceasing to reside in the United Kingdom will not be entitled to any weekly payment unless a medical referee certifies that the incapacity resulting from an injury is likely to be of a permanent nature, in which case, however, he may have quarterly payments subject to proof of identity and continuance of the incapacity.

(19) No weekly payment or sum paid in redemption can be assigned, charged, or attached.

[It will be seen that the duties of the medical referees are very largely increased and that their decisions will be conclusive and final; the success of the Act will therefore depend, so far as regards the medical arrangements, on (1) whether the medical referees who are appointed have the confidence of the profession in their several districts; (2) on the support given to them by the county-court judges; and (3) on the regulations for medical examinations which are to be made by the Secretary of State.]

13 (p. 14). "Workman" does not include any person employed otherwise than by way of manual labour whose remuneration exceeds £250 a year, or a person whose employment is of a casual nature and who is employed otherwise than for the purposes of the employer's trade or business, or a member of a police force, or an outworker, or a member of the employer's family dwelling in his house, but, save as aforesaid, means any person who has entered into or works under a contract of service or apprenticeship with an employer, whether by

way of manual labour, clerical work, or otherwise, and whether the contract is expressed or implied, is oral or in writing.

[*The Act therefore includes ordinary workmen of all kinds regularly employed, clerks, secretaries, medical assistants and dispensers, curates, lay readers, and nurses, and last, but not least, all domestic servants.*]

16. (1). The Act will come into operation on the first day of July, 1907, and will not apply to any case where the accident happened before that date, except so far as it relates to references to medical referees, and proceedings consequential thereon.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 10th, 1829.

On Dancing and on its advantages to young Persons, when it is scientifically taught.[1]

THOSE who affect to think that the most indifferent of our actions should always be described in a manner which indicates the highest degree of morality, speak of dancing in terms that I shall not repeat: religious fanatics speak of it in a way that is connected with their modes of thinking; the dealers in gymnastic exercises, as they are called, mention dancing in terms which show that *they* think it very inferior, in point of utility, as well as in the power of exciting pleasurable sensations, to their own exercises. Those who attend to these discourses, will be in a condition to judge how far those opinions are correct; but as I differ in opinion, upon this subject, from all those persons that have been mentioned, I shall only consider dancing as something that either has, or may have, peculiar effects upon the health, as well as upon the form of those who practise it. Dancing is *one* of the most healthy, as well as *one* of the most pleasing, amusements that has been, or that can be practised, by females of the superior classes of society; if it is learned from those who are well qualified to teach it, and practised, as it ought to be, consistently with the instructions by which it is taught, it will contribute more to improve the health, as well as the form, of those who practise it, than any other exercise. I advance this decisively, because I have lately seen a book, from which I have extracted the following passage:—

"I have adverted to the over anxiety to educate girls in the fascinating accomplishments of music, drawing, and dancing; in the prosecution of which, they are confined in hot rooms, and forced into strained attitudes for hours together; and to the manner in which it has led, in different ways, to the most distressing circumstances. If long perseverance, in any habit, be sufficient to produce distortion and deformity in the spinal arrangement of adult and athletic males, it will surely be much more likely to induce them in the sickly and pampered children of the affluent. Though various causes may be assigned for the increased prevalence of these complaints in our own time, I am convinced that the relaxing effects of hot rooms, and a too ardent pursuit of feminine accomplishments, are the principal ones. By admitting the elasticity of the fibrous structure, and its disposition to stretch under certain favourable circumstances, we are enabled to understand many obscure actions which are going on in the animal economy, and in particular, to fix the doctrine of spinal distortion upon a simple and lasting foundation."

It would be an unwarrantable display of false tenderness to the writer, to use any of the terms that are commonly employed to describe the writings of medical men, to give a character to this passage; it will, however, be doing him justice, to use a term that is well understood in a neighbouring country, when they say a thing is all bothertion; or if he should prefer an English explanation, I would say, the whole is a tissue of vulgar impudence that has no foundation in truth, and has been used to confound those who only wish to know the plain meaning of plain words. This being the case, as I shall have occasion to pay much attention to the writings of this person, at a future period, I shall only endeavour, at present, to show what are the real effects of dancing, that those who are interested in understanding it, may see how little this person knows about the matter.

[1] Excerpt from "Lectures on Muscular Action, and on the Cure of Deformities." By Mr. Sheldrake.

MEDICINE AND THE LAW.

The Food of the People.

AMONG recent cases in which the purity of food offered for sale has formed the subject of legal proceedings may be noted a seizure of unsound fruit in Battersea with regard to which Mr. De Grey held that the defendant, a wholesale dealer, was protected by a notice in his yard that "Packets of fruit are sold on the express condition that the buyers shall sort the said contents and before offering any part to the public destroy the unsound portion." It will be interesting to see if this rather ingenious notice is adopted as widely as its success in a particular instance would suggest that it may be and whether other magistrates will follow Mr. De Grey's example should a similar case come before them. It seems open to the objection that the vendor was imposing a condition which he would find extremely difficult, if not impossible, to enforce. In another case at Greenwich police-court a butter merchant, trading at Sydenham, who had been previously convicted, was fined £40 with 12*s.* 6*d.* costs, or in the alternative two months' imprisonment, for selling butter adulterated with 80 per cent. of foreign fat. At Enfield two defendants have been fined £10 each with the alternative of one month's imprisonment for selling beer not brewed by the firm whose labels were affixed to the jars. The defence was raised that the printed slips of paper which the prosecution said were labels to deceive the customer were the headings of invoices stuck on as pieces of paper only, in order that the defendant might write upon them, with the further suggestion that the ales of the eminent firm of brewers in question would thereby be advertised. At an inquest held in Battersea by Mr. Troutbeck the death of a woman who had died from eating fried fish was inquired into with no very definite result, the coroner dwelling upon the importance of the constant inspection of the people's food-supply. The fish in this instance had not been fried in oil but in dripping purchased from a restaurant, which increased the difficulty of tracing the source of whatever caused the death of the deceased, and the jury brought in a verdict of "Accidental death."

Confidence withheld from a Medical Man.

At a recent inquest at Battersea held before Mr. Troutbeck the evidence showed that the deceased, a married woman, died from a fatal dose of ammonia which she had taken by mistake for gin, and that her husband, who was aware of what she had done, called in a medical man, but apparently, through a desire to conceal his wife's drinking habits, did not tell him of it. Indeed, when Mr. Percy A. Palmer, who attended her, asked him whether she had taken poison he denied it and did not admit it until it was too late. As Mr. Troutbeck observed, medical men are sometimes expected to divine what their patients are suffering from as if they were magicians, and to cure them in spite of their, or their friends', denials of material facts and their refusal to volunteer information. To persist in the endeavour to elicit all necessary details would seem to be the only course open but this cannot always be done effectually when the symptoms are not marked enough to assist the cross-examination. Apparently no liquid has a sufficiently powerful and distinctive odour to prevent it from being mistaken for the spirits usually consumed by those who habitually drink to excess.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9714 births and 6879 deaths were registered during the week ending Jan. 5th. The annual rate of mortality in these towns, which had been equal to 19·1 and 19·7 per 1000 in the last two weeks of December, further rose to 22·4 in the week under notice. During the 13 weeks of last quarter the death-rate in these towns averaged 16·2 per 1000; the rate during the same period in London being 16·0. The lowest death-rates in the 76 towns during last week were 6·4 in Hornsey, 12·2 in East Ham, 13·1 in West Hartlepool, and 13·5 in Barrow-in-Furness; the rates in the other towns ranged upwards to 27·6 in Preston, 28·0 in Oldham, 32 4 in Sunderland, and 36·4 in Middlesbrough. The 6879 deaths in the 76 towns showed a further increase of 891 upon the numbers in recent

weeks, due in great measure to delay of registration during Christmas week. They included 478 which were referred to the principal epidemic diseases, against 425 and 430 in the two preceding weeks; of these, 158 resulted from measles, 99 from diphtheria, 90 from whooping-cough, 54 from diarrhœa, 44 from scarlet fever, 33 from "fever" (principally enteric), and not one from small-pox. The deaths from these epidemic diseases were equal to an annual rate of 1·6 per 1000 in the 76 towns; the rate in London from the same diseases being 1·5. No death from any of these epidemic diseases was returned last week in Brighton, Hornsey, York, West Hartlepool, Ipswich, or in five other of the 76 towns; the annual death-rate therefrom, however, ranged upwards to 3·1 in Salford and Hull and 6·7 in Rotherham and Warrington. The fatality of measles showed the largest proportional excess in Rochdale, Wigan, Rotherham, and Warrington; diphtheria in Aston Manor, Rotherham, Reading, and Derby; and whooping-cough in Blackburn, Tottenham, Leyton, Hastings, and Middlesbrough. Scarlet fever caused 12 deaths in Manchester and Salford, and nine in Sheffield. Four deaths from "fever" were returned both in Bristol and in Birmingham. No case of small-pox has been under treatment in the Metropolitan Asylums Hospitals since the end of June last. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 3807 and 3846 in the two preceding weeks, declined to 3707 at the end of the week under notice; 309 new cases were admitted to these hospitals during the week, against 334 and 237 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily increased in the five preceding weeks from 312 to 561, further rose to 718 in the week under notice, and exceeded the corrected average in the corresponding week of the last five years by 280; 87 deaths were also referred to influenza. The causes of 87, or 1·2 per cent., of the deaths registered during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 43 other of the 76 towns; the proportion of uncertified deaths, however, again showed a considerable proportional excess in Liverpool, Birmingham, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·9 and 19·0 per 1000 in the two preceding weeks, rose again to 22·9 in the week ending Jan. 5th, and exceeded by 0·5 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns ranged from 15·0 and 21·2 in Perth and Leith, to 29·0 in Dundee, and 31·8 in Paisley. The 796 deaths in the eight towns showed an increase of 144 upon the number returned in the previous week and included 71 which were referred to the principal epidemic diseases, against 69 and 55 in the two preceding weeks. These 71 deaths were equal to an annual rate of 2·0 per 1000, which exceeded by 0·4 the rate from the same diseases in the 76 English towns; they included 18 which were referred to whooping-cough, 16 to diarrhœa, 14 to "fever," 11 to diphtheria, ten to measles, two to scarlet fever, and not one to small-pox. The 18 fatal cases of whooping-cough corresponded with the number in the previous week, and included 11 in Glasgow and two both in Dundee and Aberdeen. Of the 16 deaths attributed to diarrhœa five occurred in Edinburgh and in Dundee, and three in Glasgow and in Paisley. The 14 deaths referred to "fever" showed a marked increase upon recent weekly numbers; no fewer than 13 were returned in Glasgow, of which seven were certified as cerebro-spinal meningitis. Diphtheria caused four deaths both in Glasgow and in Edinburgh; measles, six in Aberdeen and two in Glasgow and in Edinburgh; and the two fatal cases of scarlet fever were returned in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 119 and 167 in the two preceding weeks, further rose to 182 in the week under notice, and exceeded the number returned in the corresponding week of last year by 49. The causes of 46, or 5·8 per cent., of the deaths registered during the week were not certified or not stated; the mean proportion of uncertified deaths in the 76 English towns during the week did not exceed 1·2 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 28·8 and 18·4 per 1000 in the two preceding weeks, rose to 31·9 in the week ending Jan. 5th. During the 13 weeks of last quarter the death-rate in the city averaged 23·9 per 1000, the mean rate during the same period in being only 16·0 in London and 16·2 in Edinburgh. The 239 deaths of Dublin residents during the week under notice showed an increase of 110 upon the exceptionally low number returned during the Christmas week; they included 19 which were referred to the principal epidemic diseases, against nine and five in the two preceding weeks. These 19 deaths were equal to an annual rate of 2·5 per 1000, against 1·5 in London and 1·8 in Edinburgh. The 19 deaths from these epidemic diseases in Dublin last week included nine from diarrhœa, seven from whooping-cough, three from measles, and not one either from small-pox, scarlet fever, diphtheria, or "fever." The fatal cases of diarrhœa, whooping-cough, and measles showed a considerable increase upon recent weekly numbers. Nine inquest cases and seven deaths from violence were registered during the week; and 79, or 33·1 per cent., of the deaths occurred in public institutions. The causes of 16, or 6·7 per cent., of the deaths registered in the city during the week were not certified; the percentage of uncertified deaths in the week under notice did not exceed 0·1 in London, while it was 9·5 in Edinburgh.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1906.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 7·5 per 1000 of the population, estimated at 4,721,217 persons in the middle of last year. In the three preceding months the rates had been 9·0, 11·1, and 9·5 per 1000 respectively. The lowest rates last month were recorded in Kensington, Hammersmith, City of Westminster, St. Pancras, Holborn, and the City of London; and the highest rates in Paddington, Fulham, Bermondsey, Battersea, Deptford, and Woolwich. The prevalence of scarlet fever showed a further decrease during December as compared with other recent months; among the various metropolitan boroughs this disease was proportionally most prevalent in Paddington, Fulham, Bermondsey, Battersea, and Woolwich. The Metropolitan Asylums hospitals contained 3787 scarlet fever patients at the end of last month, against 3360, 4111, and 4003 at the end of the three preceding months; the weekly admissions averaged 328, against 461, 543, and 430 in the three preceding months. Diphtheria was considerably less prevalent last month than it had been in the preceding month; this disease showed the greatest proportional prevalence in Fulham, Battersea, Wandsworth, Deptford, Greenwich, and Lewisham. The number of diphtheria patients under treatment in the Metropolitan Asylums hospitals, which had been 844, 1062, and 1075 at the end of the three preceding months, had declined again to 995 at the end of last month; the weekly admissions averaged 128, against 130, 175, and 153 in the three preceding months. The prevalence of enteric fever showed a marked decline last month; among the various boroughs this disease was proportionally most prevalent in St. Marylebone, St. Pancras, Finsbury, the City of London, and Camberwell. There were 134 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 139, 200, and 161 at the end of the three preceding months; the weekly admissions averaged 18, against 28, 34, and 24 in the three preceding months. The greatest proportional prevalence of erysipelas was recorded in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Bermondsey, and Deptford. The 22 cases of puerperal fever notified during the month included two each belonging to Paddington, Kensington, Fulham, St. Pancras, Lambeth, Battersea, and Camberwell.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending Dec. 29th the deaths of 6626 persons belonging to London

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING DECEMBER, 1906

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1906.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,721,217	—	1466	650	2	128	1	72	454	—	2723	7·5	—	100	44	75	98	—	30	—	67	414	1·1	6026	18·3	144
West Districts.																										
Paddington	148,913	—	104	14	—	2	—	2	14	—	126	11·9	—	—	5	4	—	—	—	—	4	13	1·1	182	15·9	153
Kensington	180,952	—	28	15	—	4	—	2	12	—	61	4·4	—	1	—	4	4	—	1	—	3	13	0·9	233	16·8	142
Hammersmith	120,679	—	21	11	—	3	—	—	9	—	44	4·8	—	—	2	2	3	—	3	—	—	10	1·1	137	14·8	92
Fulham	161,965	—	80	37	—	4	—	2	18	—	141	11·3	—	—	2	2	3	—	—	—	8	15	1·2	209	16·8	157
Chelsea	74,672	—	20	5	—	2	—	1	7	—	35	6·1	—	—	1	1	—	—	—	—	2	4	0·7	89	15·5	172
City of Westminster	173,905	—	28	13	—	4	—	1	12	—	58	4·3	—	—	1	1	4	—	1	—	—	7	0·5	209	15·7	116
North Districts.																										
St. Marylebone	123,580	—	24	16	—	6	—	—	10	—	56	5·7	—	2	1	3	—	—	—	—	—	6	0·6	186	18·9	68
Hampstead	89,633	—	34	11	—	3	—	—	3	—	51	7·4	—	—	—	1	1	—	—	—	—	2	0·3	63	9·2	33
St. Pancras	236,455	—	27	13	—	13	—	2	21	—	76	4·2	—	—	2	4	4	—	3	—	1	14	0·8	377	20·8	168
Islington	344,987	—	90	28	2	8	1	1	32	—	162	6·1	—	2	2	1	16	—	2	—	2	25	0·9	536	20·3	177
Stoke Newington	53,217	—	13	3	—	—	—	—	6	—	22	5·4	—	—	—	—	1	—	—	—	1	2	0·5	46	11·3	71
Hackney	230,721	—	80	29	—	8	—	1	21	—	139	7·9	—	3	1	—	3	—	2	—	5	14	0·8	283	16·0	97
Central Districts.																										
Holborn	55,805	—	7	4	—	—	—	1	5	—	17	4·0	—	—	—	1	1	—	—	—	—	2	0·5	104	24·3	140
Finsbury	97,466	—	16	6	—	5	—	—	16	—	43	5·8	—	2	—	1	7	—	3	—	1	14	1·9	190	25·4	194
City of London	21,367	—	1	—	—	1	—	—	1	—	3	1·8	—	—	—	—	—	—	—	—	—	—	—	38	23·2	158
East Districts.																										
Shoreditch	116,108	—	36	11	—	3	—	—	20	—	70	7·9	—	1	3	3	3	—	—	—	3	13	1·5	212	23·8	176
Bethnal Green	130,609	—	41	21	—	4	—	—	22	—	88	8·8	—	9	2	2	5	—	1	—	1	20	2·0	216	21·6	210
Stepney	307,176	—	73	53	—	14	—	—	39	—	179	7·6	—	42	2	4	4	—	3	—	4	59	2·5	489	20·8	143
Poplar	170,673	—	33	14	—	5	—	—	22	—	74	5·7	—	5	—	4	1	—	—	—	5	15	1·1	258	19·7	161
South Districts.																										
Southwark	209,143	—	84	20	—	7	—	1	17	—	129	8·0	—	—	1	1	8	—	2	—	5	17	1·1	325	20·3	169
Bermondsey	128,629	—	61	23	—	2	—	—	20	—	106	10·7	—	8	2	5	2	—	—	—	2	19	1·9	248	25·1	175
Lambeth	315,774	—	93	34	—	5	—	2	23	—	157	6·5	—	1	2	4	3	—	2	—	4	16	0·7	446	18·8	138
Battersea	179,622	—	92	54	—	3	—	2	14	—	165	12·0	—	—	5	2	5	—	1	—	3	16	1·2	233	16·9	140
Wandsworth	273,381	—	74	63	—	1	—	1	22	—	161	7·7	—	7	3	8	5	—	1	—	3	27	1·3	316	15·1	136
Camberwell	274,132	—	120	34	—	12	—	2	26	—	194	9·2	—	1	3	4	12	—	3	—	5	28	1·3	370	17·6	139
Deptford	115,496	—	47	34	—	3	—	—	15	—	99	11·2	—	1	—	3	1	—	—	—	2	7	0·8	156	17·6	169
Greenwich	105,350	—	38	27	—	3	—	1	8	—	77	9·5	—	—	3	3	—	—	—	—	—	6	0·7	137	17·0	111
Lewisham	148,463	—	38	34	—	1	—	—	7	—	80	7·0	—	—	—	4	2	—	—	—	1	7	0·1	156	13·7	107
Woolwich	127,345	—	63	23	—	2	—	—	11	—	99	10·1	—	15	1	3	—	—	2	—	2	23	2·4	152	17·6	89
Port of London	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

were registered, equal to an annual rate of 18·3 per 1000; in the three preceding months the rates had been 17·1, 13·6, and 14·7 per 1000 respectively. The death-rates last month ranged from 9·2 in Hampstead, 11·3 in Stoke Newington, 13·7 in Lewisham, 14·8 in Hammersmith, 15·1 in Wandsworth, and 15·5 in Chelsea, to 21·6 in Bethnal Green, 23·2 in the City of London, 23·8 in Shoreditch, 24·3 in Holborn, 25·1 in Bermondsey, and 25·4 in Finsbury The 6626 deaths from all causes in London last month included 414 which were referred to the principal infectious diseases; of these, 100 resulted from measles, 44 from scarlet fever, 75 from diphtheria, 98 from whooping-cough, 30 from enteric fever, and 67 from diarrhœa. No death from any of these diseases was recorded in the City of London; among the metropolitan boroughs they caused the lowest death-rates in the City of Westminster, Hampstead, Stoke Newington, and Holborn; and the highest rates in Finsbury, Bethnal Green, Stepney, Bermondsey, Lewisham, and Woolwich. The 100 deaths from measles were 85 below the corrected average number in the corresponding periods of the four preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Bethnal Green, Stepney, Poplar, Bermondsey, Wandsworth, and Woolwich. The 44 fatal cases of scarlet fever were slightly in excess of the corrected average number; this disease showed the highest proportional mortality in Hammersmith, Paddington, Shoreditch, Bermondsey, Battersea, and Greenwich. The 75 deaths from diphtheria were also just above the average for the corresponding periods of the four preceding years; the highest death-rates from this disease were recorded in Paddington, Shoreditch, Bermondsey, Wandsworth, Deptford, Greenwich, and Lewisham. The 98 fatal cases of whooping-cough were 16 fewer than the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Islington, Finsbury, Bethnal Green, Southwark, Battersea, and Camberwell. The 30 deaths from enteric fever showed a considerable decline from the average number in the corresponding periods of the four preceding years; the greatest proportional mortality from this disease was recorded in Hammersmith, St. Pancras, Finsbury, Stepney, and Woolwich. The 67 fatal cases of diarrhœa were almost identical with the corrected average number; the highest death-rates from this disease were recorded in Paddington, Fulham, Chelsea, Shoreditch, and Poplar. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was more than 20 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 144 per 1000. The lowest rates of infant mortality were recorded in Hammersmith, St. Marylebone, Hampstead, Stoke Newington, Hackney, and Woolwich; and the highest rates in Chelsea, Islington, Finsbury, Shoreditch, Bethnal Green, and Bermondsey.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: W. M. Craig to the *President*, for three months' course at West London Hospital; and R. C. Munday to the *Abouhir*. Staff Surgeons: H. C. Arathoon to the *Diamond*; and W. G. Westcott to the *Essex*. Surgeons: G. M. Eastment to the *Magnificent*; A. R. Thomas to the *Terrible*; H. L. Geoghegan to the *Victorious*; R. B. Scribner to the *Majestic*; W. P. Yetts to the *Leviathan*; G. E. Macleod to the *Glory*; J. R. Muir to the *Albion*; R. C. P. McDonagh to the *Cressy*; E. S. Wilkinson to the *Andromeda*; R. Kennedy to the *Spartiate*; S. Croneen to the *Cornwall*; W. L. Martin to the *Cumberland*; H. A. Browning to the *Donegal*; T. W. Jeffery to the *Abouhir*; G. C. C. Ross to the *Niobe*; P. F. Minett to the *Europa*; A. H. S. Richardson to the *Cambridge*; G. Taylor to the *Ariadne*; N. J. Roche to the *Hannibal*; and G. E. Duncan to Plymouth Hospital.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon John Walter Slaughter has been placed on the retired list of his rank, at his own request (dated Jan. 3rd, 1907).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel G. W. Brazier-Greagh, C.M.G., and Lieutenant-Colonel R. W. Wright have joined at Woolwich.

Captain G. J. S. Archer, from the Royal Army Medical College, has been appointed to Londonderry for duty.

ARMY MEDICAL RESERVE OF OFFICERS.

The undermentioned Surgeon-Captains to be Surgeon-Majors:—Alexander B. Lyon (dated Feb. 10th, 1906); James P. S. Ward (dated Nov. 21st, 1906); Robert T. Ferguson (dated Dec. 5th, 1906). Surgeon-Lieutenant Harry Stallard to be Surgeon-Captain (dated Dec. 27th, 1906).

DEATHS IN THE SERVICES.

Surgeon-Major-General Frederick William Wade, A.M.S. (retired), on Dec. 26th, 1906, aged 69 years. He entered the service as assistant surgeon in 1857, became surgeon in 1872, surgeon-major in 1873, deputy surgeon-general in 1883, surgeon-colonel in 1887, surgeon-major-general in 1892, and retired in 1894.

Surgeon-General Richard Chapman Lofthouse, A.M.S. (retired). He entered the service as assistant-surgeon in 1854, became surgeon in 1867, surgeon-major in 1873, brigade-surgeon in 1879, and retired in 1884 with the rank of deputy surgeon-general. He served with the Prince of Wales's 10th Royal Hussars in the Crimean war and was present at the siege and fall of Sevastopol (medal and clasp and the Turkish medal). He served in the Indian Mutiny with the 14th King's Light Dragoons under Sir Hugh Rose and Sir Robert Napier, took part in many important actions, was mentioned in despatches, and received the medal and clasp for Central India. He also served during the occupation of Egypt from 1882 to 1884.

THE PROMOTION EXAMINATIONS OF ARMY MEDICAL OFFICERS.

When the new Army Medical Advisory Board gets to work it might usefully turn its attention, among other things, to the subject of the examination of medical officers for promotion. It is questionable whether the tendency of the present day is not to a system of over-examination, as we are disposed to think is the case, but this is not the point with which we are now more immediately concerned. This is, rather, whether the subjects taken up should not, as applied to a scientific branch of the service, undergo some modification in order to give them a more direct and practical bearing upon a medical officer's special duties with the view of showing his efficiency in that respect. While we recognise that it is desirable that a medical officer for administrative and disciplinary purposes should in a general way be acquainted with such subjects as military law, the terms of the Geneva Convention, the laws and customs of war, and with the medical organisation and regulations of the armies of other countries, we nevertheless think that such knowledge must be regarded as relatively unimportant and subordinate to that directly bearing upon the special work and duties of a medical officer as such.

PROMOTION IN THE ARMY MEDICAL SERVICES.

That this has been the subject of a feeling of unrest and dissatisfaction of late in the Army Medical Services is much to be regretted, but the existence of this state of affairs cannot, we think, be denied. Whether rightly or wrongly we cannot say, but by some this was ascribed to the influence of the Advisory Board. We regard it, however, as a move in the right direction that all selections for promotion of officers to ranks having a fixed establishment are primarily to be made by a board consisting of the Director-General and the surgeons-general serving at home, who will make their reports and recommendations directly to the Selection Board at the War Office.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berne:* Dr. Kurt Kottmann has been recognised as *privat-docent* of Medicine.—*Bonn:* Dr. Robert Bonnet of Greifswald has been offered the post of Professor of Anatomy in succession to Dr. Freiherr v. la Valette St George, who retires at the close of the winter session.—*Clausenburg:* Dr. Konradi has been recognised as *privat-docent* of General Pathology and Therapeutics.—*Freiburg:* Dr. Wilhelm Hildebrandt has been recognised as *privat-docent* of Medicine.—*Paris:* Dr. Raphaël Blanchard has been appointed Professor of Parasitology and of Medical Natural History.—*Vienna:* Dr. Max Richter has been appointed Extraordinary Professor of Forensic Medicine; Dr. Theodor Panzer, Extraordinary Professor of Medical Chemistry; Dr. Otto Loewi, Extraordinary Professor of Pharmacology; and Dr. Otto Ritter von Fürth, Extraordinary Professor of Medical Chemistry.—*Würzburg:* Dr. Brückner has been recognised as *privat-docent* of Ophthalmology.

Correspondence.

"Audi alteram partem."

SCARLET FEVER MORTALITY AND HOSPITAL ISOLATION.

To the Editors of THE LANCET.

SIRS,—I fear the purport of my letter published in THE LANCET of Dec. 15th, 1906, p. 1685, has been misunderstood by yourselves and Dr. W. G. Willoughby. Perhaps I did not express myself with sufficient clearness. Your original article claimed that hospital isolation had had a beneficial effect on gross scarlet fever mortality and that proposition I ventured to dispute. Now hospital isolation can only lower gross scarlet fever mortality either by generally reducing the incidence of the disease and thereby curtailing the number of fatal cases, or by supplying hospital patients with treatment of superior efficacy to that obtainable at home, or by a combination of these two accomplishments. In your article you set aside the first claim—"the statistics quoted above seem to suggest that ..... its prevalence does not appear to have declined notably"—but, on the contrary, in your reply to me you assert it—"The most obvious advantage of isolation is to check distribution of disease and thus to reduce the number of cases and consequently of fatal cases." These statements seem to me to be mutually exclusive. The reason for which I compared home and hospital treatment was merely to show that on such evidence as was at hand there could be no claim for distinct superiority in favour of the latter. So that if isolation hospitals do not appreciably limit the prevalence of scarlet fever, and if they do not provide appreciably better treatment than is obtained at home, they cannot appreciably affect gross scarlet fever mortality. Dr. Willoughby will, I am sure, excuse me if I point out that after citing the figures, comparing home and hospital mortality, I said, "There is a certain selection acting against the hospital of course," an expression designed to cover precisely the conditions he gives in detail.

But, apart from the point at issue, Dr. Willoughby seems to credit me with the desire of "doing away with the hospitals," and I gather that you suspect me of similar heretical leanings. My wish is rather to plead for the preservation of an attitude of intellectual disembarrassment on the whole question, not claiming more for the hospitals than evidence warrants and not unreservedly condemning them because they have not fulfilled the function prophesied for them. We are faced with the paradox that the segregation of certain infectious patients in many—indeed, in most—large towns has not been followed by any decided drop in the prevalence of the disease from which they suffer, and the chief lesson that paradox would appear to indicate is that diligent inquiry should be made into the factors which have prevented that result ensuing. I am not at all sure that Dr. Willoughby has not "got the right sow by the ear." He is able to show scarlet fever results of a peculiarly gratifying kind. To what are they attributable? Dr. Willoughby has the sanitary direction of one of the best-planned and best administered towns in England, a town where the standard of comfort and decency is exceptionally high, where overcrowding is practically unknown, where houses are well built and well drained, where slums do not exist, where employment is regular and well paid—a town, in fact, where every prospect pleases and even man is not vile. Backed by these enviable conditions, armed with a wieldy, airily situated, well-broken-up isolation hospital, entrusted with the medical supervision of elementary school children, and supported by a body of loyal medical colleagues, he is in a position to demonstrate that in Eastbourne scarlet fever is a manageable disease. To my mind, the suggestion is rather that a community framed on humane and discriminating lines may find such a hospital a serviceable handmaid in dealing with infectious disease than that viciously planned and corruptly disposed cities can reasonably hope by the wholesale provision of isolation hospitals to stay the natural consequences of flagrant sanitary errors. The two conceptions of hygienic strategy differ *toto cœlo*.

I am, Sirs, yours faithfully,

Outer Temple, W.C., Jan. 1st, 1907. HUBERT E. J. BISS.

AMYL NITRITE IN HÆMOPTYSIS.

To the Editors of THE LANCET.

SIRS,—In the communication of Dr. Francis Hare in THE LANCET of Dec. 29th, 1906, p. 1830, anent my note concerning the mechanism of the action of amyl nitrite, the following pertinent interrogations are presented: 1. How could any contraction of the bronchial tubes express the blood from the pulmonary parenchyma? 2. Would not contraction of the bronchial tubes cause obstructive dyspnœa similar to, if not identical with, that which constitutes an asthmatic paroxysm? 3. How can the action of amyl nitrite upon systemic hæmorrhage, say from the uterus, be explained? I used the sponge as a simile in describing how blood was expressed from the lungs because the latter are of a spongy, elastic texture. It is conceded that the vagus contains fibres which can contract or dilate the bronchi. This fact has been conclusively shown by Dixon and Brodie. For the facts relating to its clinical demonstration I must refer to my several communications on the subject.[1] The dual function of the vagus fibres must be expressed on two kinds of muscles. Aufrecht [2] has shown that the belief of only a circular layer constituting the musculature of the bronchi is wrong and that by using the Biondi Heidenhain stain a longitudinal muscular layer also exists. If our conception of the bronchial tubes were limited to the relatively rigid cartilaginous structures it would be difficult to understand how their contraction could express the blood from the lung parenchyma. Our conception of the tubes, however, is strictly in accord with the anatomic understanding. They are tubes until they end in the smaller subdivisions of the lungs called lobules and they contain muscular fibres even after the cartilaginous element is lost. The primary effect of amyl nitrite inhalation is to dilate and the secondary effect is to contract the lungs by virtue of its action on the longitudinal fibres. In the latter sense the action is tantamount to forced expiration, such as is observed in Valsalva's experiment whereby the lungs are emptied of blood. That amyl nitrite should have a specific action on the longitudinal to the exclusion of the circular fibres is not phenomenal. We have our angiospastics and our angioparalytics, and we possess myotics and mydriatics. Assuming that amyl nitrite anæmises the lung superficies, how is this effected? To attribute such action to the direct effects of the drug on the pulmonary vessels would be wrong for two evident reasons. The drug is a vaso-dilator and to admit that its action is one of vaso-constriction on the pulmonary blood-vessels is to create a theory which has no precedent in pharmacodynamics. True, we possess drugs which have a localised action either as vaso-dilators or vaso-constrictors, but when such action is expressed elsewhere it is either by dilatation or constriction of the vessels. In the blood-vessels of the lungs the influence of the vaso-motor nerves is minimised. In hæmoptysis the genesis of the bleeding is from veins as well as arteries. While Mall has demonstrated a vaso-motor influence on the portal vein such influence on the pulmonary veins is a matter of conjecture only.

In answer to the second question, I will say this, that we must differentiate the action of the circular and longitudinal muscular fibres of the bronchial musculature. My theory of asthma [3] is the modified spasmodic theory. It assumes that the theory of asthma must not alone be based on a spasm of the circular but on the inability of the weaker longitudinal fibres to expel residual air imprisoned by the circular fibres. This action has its analogue in the bladder musculature when, in consequence of a spasm of the sphincter vesicæ, the weak detrusor vesicæ cannot expel the urine and ischuria spastica results. The hypodermic use of adrenalin chloride is often more efficacious than morphine in subduing an asthmatic paroxysm. Such an injection, even in a normal subject, will translate a percussion sound of resonance into dulness or even flatness—in other words, the action of adrenalin is on the longitudinal fibres and provokes the lung reflex of contraction. There is a secret remedy used in the United States which is phenomenally efficacious in aborting asthmatic attacks. It is used by means

[1] New York Medical Journal, June 13th, 1896; American Medicine, March 1st, 1902; Philadelphia Medical Journal, Sept. 29th, 1900; American Medicine, Jan. 3rd, 1903; Diseases of the Lungs and Pleura, 1903, p. 80.

[2] Deutsches Archiv für Klinische Medicin, Band lxvii., Hefte 5 and 6.

[3] The Medical News, June 25th, 1904; American Medicine, Jan. 3rd, 1903.

of a nebuliser. All chemical analyses of the preparation in question are untrustworthy, for formulæ made according to such analyses do not show the effects of the original preparation. I have sought to determine the nature of the secret remedy by studying its physiologic action which is essentially as following: When sprayed into the nose, even of a normal subject, there is almost an immediate translation of the normal lung resonance to dulness or flatness (lung reflex of contraction). The weakness of the longitudinal fibres is also demonstrated by my tracheal traction test,[4] which is a simple method of recognising an asthmatic lung. In accordance with the theory propounded, I treat my asthmatics in the paroxysmal and interparoxysmal periods by respiratory exercises which tend to strengthen the longitudinal fibres. I have known asthmatics whose attacks resisted even the influence of an anæsthetic for hours and which yielded after a few minutes of systematic compressions of the thorax during expiration.

Relative to the final question, I believe it has already been answered. Amyl nitrite acts on the fibres of the uterus with secondary constriction of the blood-vessels, just as it acts on the longitudinal fibres of the bronchial musculature and in the former action it is essentially an oxytocic. The lowering of the blood pressure must also be taken into account as cited in my previous communication.

I am, Sirs, yours faithfully,

Paris, Jan. 2nd, 1907. DR. ALBERT ABRAMS.

GAS FIRES.

To the Editors of THE LANCET.

SIRS,—I have already discussed the report of the Coal Smoke Abatement Society in the columns of the *Gas World* (Dec. 8th) and whilst agreeing with some of the conclusions arrived at by Mr. Francis Jones as to the inadequacy of hasty tests carried out in larger rooms than ordinary living rooms, I must respectfully protest against his urging the results he himself arrived at six years ago as being of any greater value than those he now impugns. In March last Mr. Jones was good enough to send me a copy of his pamphlet, "The Air of Rooms, &c.," and in a correspondence which ensued therefrom I pointed out that the room in which his tests were made erred considerably on the side of being *too small*, being only of 935 cubic feet capacity. In this room Mr. Jones used a gas fire the consumption per hour and the pressure of which he never took the trouble to inquire. It had eight bunsens, *and as each would consume five cubic feet of gas* it was obviously too large for the room in which the tests were made. I gathered from his letters that the gas fire was fitted into the same flue as the coal fire without any consideration as to the satisfactory carrying away of the products. Upon the point of fixing Mr. Jones, in a letter dated April 7th last, said:—

> I made no suggestions but wished the fire to be arranged the same way these workmen are accustomed to do in ordinary Manchester houses; if there were a more perfect way *it would not suit my purpose* since I wished to test the fire in the way it is commonly used.

Where such an indifference is displayed is it reasonable to publish broadcast results the value of which might absolutely be nullified by the single mistake of a workman or gas-fitter? If one is seeking after scientific truth it is important that nothing be left to the frailties of even corporation gas-fitters. Far from the fire being fitted in "the ordinary way" one can only describe both the method of procedure, the size of the fire, and the dwarfed room as most *extraordinary*.

Although Mr. Jones took records of the temperature of the room he did not think them of sufficient importance to publish in his pamphlet! The following are extracts from my last letter dated April 11th, 1906, to Mr. Jones on this subject:—

> A coal fire can be no better ventilating agent than a gas fire if, in the latter, we generate as many units of heat as are generated in a coal fire. It is all a question of arrangement between the method of heating and the method of carrying off the products or promoting draught.
>
> You do not think the size of the room will make any difference seeing that the experiments were comparative ..... you might as well put a gaslight or gas fire into a hermetically sealed box, and because the oxygen gives out assert that it is conclusive proof that gas is extremely poisonous and ought not to be used. My point is, that the size of the room compared with the type of stove or method of gaslighting used has *everything* to do with it, and when one is correctly adjusted to the other, the carbonic acid can be kept below 10 parts in 10,000.

[4] Ibid.

> The fire used would be consuming anything from 35 to 50 cubic feet of gas per hour, whereas for a room of that size satisfactory heating would be accomplished with a gas fire consuming not more than 8 to 10 cubic feet per hour. I must say that if you had been endeavouring to get the percentage of carbonic acid in the atmosphere as high as possible you could not have adopted better conditions than a room far below normal capacity, and a fire far above normal consumption (and probably badly fitted to the flue) for your purpose.

Mr. Jones hopes the Coal Smoke Abatement Society will continue its tests. May I, too, express a similar hope—i.e., that Mr. Jones will revise his own tests, using normal conditions from which to make deductions intended for wide publication? I would not have troubled you with this letter were it not for the fact that our competing friends the electricians make as much capital as they can from such letters as the one from Mr. Jones, as is evidenced by an editorial thereupon in the *Electrical Engineer* of Dec. 21st in which appears the following summing-up:—

> We think it will be admitted that the evidence which Mr. Jones produced in support of his statement was convincing proof of its accuracy, while his criticism of the society's report is fair and reasonable.

Whilst I would be the last man in the world to impute other than the highest motives to Mr. Jones, I could not, in April last, accept his own statement of his own investigations as convincing proof of their accuracy, nor am I yet able to see eye to eye with the editor of the *Electrical Engineer*, to whom, doubtless, "the wish is father to the thought." I am, Sirs, yours faithfully,

JNO. HY. BREARLEY,
President of the Manchester District Institution of Gas Engineers.

Dec. 24th, 1906.

TUBEROSE SCLEROSIS OF THE BRAIN.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 8th, 1906, p. 1583, appeared a description, by Dr. Margaret B. Dobson, of a case of tuberose sclerosis of the brain. On Dec. 22nd, 1906, you commented upon this paper in an annotation in which you call attention to the presence in this patient of the "rare skin affection known as adenoma sebaceum." As Dr. A. W. Campbell's work is apparently unknown to Dr. Dobson and is not mentioned in your note I venture to call the attention of your readers to his paper in *Brain*, 1905, p. 382. Here they will find a full account of this curious pathological condition accompanied by a complete microscopical examination of the brain and other parts, including the kidneys, from a typical instance of this disease. His paper contains a list of the principal papers that have been written on this subject. I am, Sirs, yours faithfully,

Jan. 3rd, 1907. THE EDITOR OF "BRAIN."

SOME CASES OF ORCHITIS PAROTIDEA OR TESTICULAR MUMPS.

To the Editors of THE LANCET.

SIRS,—In the early part of last November, and within 48 hours of one another, I had under my care four cases of acute orchitis. Each case presented practically the same symptoms—rigor, high temperature, nausea, and a painful swelling of one testicle. There was no history of injury, no urethral discharge, and no swelling of the salivary glands. The disease lasted from 14 to 21 days and then disappeared. The parotids escaped from first to last. It was clear I had to deal with a specific infectious disease, an acute epidemic orchitis. I had no suspicion at the time that I was dealing with the virus of specific parotitis. Two days after I had seen my first case I was called to see a man who had had rigors, a high temperature, and who was now suffering from acute orchitis. A glance at his face showed the characteristic swellings under the lobes of the ears. This case, of course, suggested the true nature of the epidemic.

Orchitis as a complication of mumps in the adult male is a frequent complication. I have known cases in which the orchitis developed before the parotitis. But I have never seen cases of testicular mumps in which the parotids entirely escaped. On consulting Osler's "Principles and Practice of Medicine" (third edition, p. 91) I find that he says, "In rare instances orchitis may be the only manifestation of the infection."

I send you this note to call attention to a simple everyday disease which for some unexplained reason may present

itself in one of its rare manifestations and may thus cause considerable anxiety with the possibility of an erroneous diagnosis.

I am, Sirs, yours faithfully,

JOSEPH A. W. PEREIRA, M.D. Brux., L.R.C.P.Lond., M.R.C.S.Eng.,
Medical Officer, Exeter City Workhouse.

Exeter, Dec. 13th, 1906.

A NEW METHOD OF PROTECTING THE SCALP OR SKIN FROM THE X RAYS.

To the Editors of THE LANCET.

SIRS,—Whilst working with the x rays in St. Mary's Ringworm School, Eltham, there appeared to me very great difficulty in exposing contiguous areas of tinea accurately to the x rays. The methods of using circular lead glass tubes or sheet lead invariably left small sections of scalp untreated between the diseased areas. To obviate this it occurred to me to apply to the head a plastic mass, impermeable to the x rays, leaving only that portion of the scalp exposed to the rays which it was desirous to treat. Accordingly, I began to experiment with plasticine, the material with which children model. To this plasticine I added the salts of different metals and even the powdered metal itself in varying proportions, to see if I could make a mass impermeable to the rays; when I had succeeded in obtaining it the mass was so dry that it had lost all its plasticity and was useless. I found, however, a suitable substitute in a lead putty, merely ordinary putty with a fair amount of red lead added; this, even in a thin layer, was impermeable to the rays, which I was able to prove by covering the free end of a lead glass tube with it and using the fluorescent screen. To use the putty I roll out a sheet of it about 15 inches square and a quarter of an inch thick; this I place on the patient's head, moulding it smoothly over, then with a blunt spatula I remove a window over the area to be treated and no matter how irregular in shape this space may be the hair epilates uniformly after exposure to the rays and no untreated or overtreated sectors occur.

I shall be very pleased to show this method to anyone interested in the x ray treatment of ringworm or allied diseases, and if any difficulty is found in making the putty it can be obtained from Mellin and Co., chemists, High-street, Eltham, London, S.E.—I am, Sirs, yours faithfully,

JOHN D. RICE, M.B., B.Ch. R.U.I.

New Eltham, S.E., Dec. 29th, 1906.

MEAT DIET AND THE TEETH.

To the Editors of THE LANCET.

SIRS,—In his letter in THE LANCET of Jan. 5th, p. 51, Dr. J. Sim Wallace points out that some facts mentioned in my paper to the Pathological Society of London have a bearing on an important and keenly debated question in dental pathology and he asks for a fuller statement of the observations and conclusions drawn from them. In the first place, I desire to point out that any credit which may be due for the observations on the teeth referred to at that meeting and reported in your issue of Dec. 29th, 1906, p. 1777, should be given to G. W. Watson, L.D.S., and Dr. J. H. Gibbs, who made the investigation and gave a demonstration of their results to the Physiological Society in June, 1906.

Two series of observations were made into the state of the teeth in meat-fed rats. In one series young rats when weaned were fed on an ox-flesh diet, this régime being continued for from five to eight months; eight animals were employed for this investigation, an equal number of bread-and-milk fed subjects from the same litters being taken as controls. The second series comprised the progeny of meat-fed rats, 30 in number, with a like number of controls; the ages of these animals, which were also fed on an exclusive meat diet, ranged from one day to three months. The methods of investigation were: (1) a naked-eye examination of the size and general appearance of the teeth; (2) grinding down the teeth and submitting to microscopic examination; and (3) comparison of the histological appearances of the decalcified tissues. All the teeth examined in the meat-fed and bread-and-milk-fed animals alike appeared perfectly normal with three exceptions. One of these was a meat-fed animal and two were control bread-and-milk-fed subjects. These showed developmental defects, which, Dr. Gibbs informs me, are identical with those frequently present in the teeth of children, in whom they constitute a strong predisposition to caries.

The conclusions drawn from these observations are as follows: (*a*) The great increase in the consumption of meat in the past 50 years, to which I have recently drawn attention, is not an important factor in the development of dental caries, the increasing prevalence of which was proved by the recent investigation by a departmental committee; and (*b*) in view of the deficiency of lime in the meat diet and of the imperfect development of the osseous system generally under this régime, as described in THE LANCET of Dec. 8th, 1906, the results of this research to my mind conclusively negative the view that a deficiency of lime salts in the dietary makes the teeth susceptible to caries. Dr. Sim Wallace is therefore right in assuming that the facts ascertained from this research support his teaching on this subject.

I am, Sirs, yours faithfully,

CHALMERS WATSON.

Edinburgh, Jan. 6th, 1907.

THE USE OF CLAY IN SURGERY.

To the Editors of THE LANCET.

SIRS,—Respecting the annotation in THE LANCET of Jan. 5th, p. 44, on the use of clay in surgery, may I say that in 1865, when I was dresser in Lord Lister's wards, a sheet of pure tinfoil and a thick layer of "antiseptic putty" were used as the ordinary dressing to surgical wounds of almost all kinds.

I am, Sirs, yours faithfully.

T. BATES.

Worcester, Jan. 7th, 1907.

THE CASE OF MR. PEERS.

To the Editors of THE LANCET.

SIRS,—Please permit me to offer my sincere thanks to all who have expressed their disapproval of the county court judgment and their sympathy with me in such a kind and acceptable manner. The amount I have received (£35 6*s.*) will practically reimburse me, but I value far more the generous feeling displayed towards me by my fellow practitioners and by the distinguished men who have joined with them in their expression of sympathy. To them and to you, Sirs, for placing your columns at my service I once more tender my grateful thanks.

I am, Sirs, yours faithfully,

T. H. PARKES PEERS.

Surrey-square, Old Kent-road, London, S.E., Jan. 7th, 1907.

THE TREATMENT OF INFECTED EARS.

To the Editors of THE LANCET.

SIRS,—As an old advocate of conservative methods in the treatment of infective otitis I am interested in Dr. F. Spicer's letter. Of course, many cases of suppurative otitis will recover after a partial operation on the membrane with subsequent efficient attic irrigation. The membrane often heals, sometimes too readily, for one should be sure that the cavities are disinfected before allowing it to close; and this is by no means easy to be sure of. I have always taught that every case should be treated on its merits and some cases require no operation at all. But I have seen many cases in which unsuspected mischief has been progressing behind a healed membrane, and, except in comparatively recent cases, I believe it to be the safer practice to remove the membrane completely. Some time back I performed a post-mortem examination on a case of meningitis. In this case both membranes were entire but there was caries of the attic roof the result of old middle ear disease. My other point is that, as Mr. M. Yearsley points out, the hearing is often far better after removal of the membrane. Some years ago I showed a number of patients with good hearing who had had both membranes completely removed. I could have shown at the same time several patients who had apparently recovered with healed membranes. More than one of these latter cases has since developed symptoms requiring operation. Removal of the membrane will sometimes restore hearing in advanced cases of chronic progressive deafness. Yesterday a lady came to see me whose left membrane I removed in 1904. At that time she was absolutely deaf in the left ear in spite of much advice. She can now hear a sermon in church, though the right ear, which was also affected, is now absolutely deaf.

She tells me that the hearing improved more during last year than in 1905, an interesting fact in opposition to the predictions of more than one otologist.

I am, Sirs, yours faithfully,

Jan. 5th, 1907. F. FAULDER WHITE.

GASTROSTAXIS.

To the Editors of THE LANCET.

SIRS,—In his interesting address on Gastrostaxis published in THE LANCET of Nov. 3rd, 1906, p. 1189, Dr. W. Hale White refers to 29 cases which he has collected. May I draw attention to another case in which I operated, published in the *Intercolonial Medical Journal* of Feb. 20th, 1901? This patient was diagnosed as suffering from gastric ulcer at the Prince Alfred Hospital, Sydney, as well as by two physicians at St. Vincent's Hospital, Melbourne, was operated on, and died, and post mortem no lesion could be found anywhere in the alimentary canal from œsophagus to rectum, or in any abdominal organ. Another unpublished case was the following, seen on July 18th, 1906, with Dr. Alan Mackay and Dr. W. A. Wood. A married lady, aged about 30 years, had for several years been subject to very severe attacks of hæmatemesis with epigastric pain. In several of these she was so collapsed as to be apparently on the point of death. In spite of treatment and most rigid dieting the attacks recurred at varying intervals. The possibility of gastrostaxis was considered and mentioned to the patient and her husband but gastro-enterostomy was advised and performed. The interior of the stomach was very thoroughly examined, the mucous membrane being protruded through the gastric incision, but no ulcer or other lesion of the mucous membrane could be found. On the second day after the operation she developed acid intoxication with symptoms exactly like those of diabetic coma. The urine contained no sugar but traces of diacetic acid and much indican. She died on the third day after operation. Unfortunately no post-mortem examination could be obtained. I am, Sirs, yours faithfully,

Melbourne, Dec. 4th, 1906. G. A. SYME.

HOSPITAL REFORM AND THE CLERGY.

To the Editors of THE LANCET.

SIRS,—I have been reading with much interest your article on hospital administration and reform. As you point out, the root of the evil lies in the fact that large numbers of people have come to expect free treatment as a right and that charitable persons insist on a return for their subscriptions in the shape of a subscriber's letter.

Now these are two serious faults which can only be checked, not cured, by the appointment of almoners. An alteration of public opinion on these points is needed and it can be effected by no body of men so well as by the clergy. It seems ridiculous that we should often have to spend a large part of our time in making the necessary inquiries before signing a letter, doing work that an almoner at the hospital could do so much better, while all the time we are neglecting the teaching of self-reliance and of higher ideas of charity which certainly should be part of our duties. May I suggest, therefore, that every member of the medical profession should do his best as occasion serves to bring this matter before individual clergymen, pointing out to them the waste of their time and the harm of the present methods while urging them to preach higher conceptions of social duty?

But I have a further object in writing. It is not merely that I grudge the time we have to spend in making inquiries before signing letters, and regret the abuse of the hospitals where such inquiries are not made; I regret even more the fact that we clergy are looked upon by the working-classes as mere amateur relieving officers. I am convinced that so long as there is any expectation on the part of the poor that they may receive material help from us our real spiritual work is ruined. I see no chance of any great spread of religion among the masses till it is entirely separated in their minds from the receiving of relief. If medical men will point out to us that in working for hospital reform we are making possible our own special work, each profession will be helping the other for the common good. But there is a mass of false opinion on the subject which will only be altered if each individual medical man will approach each individual clergyman whom he knows with the object of converting him.

I am, Sirs, yours faithfully,

(Rev.) CLEMENT F. ROGERS.

Southampton-row, W.C., Dec. 28th, 1906.

WEST AFRICAN MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—A month or two past I read a letter in THE LANCET contrasting the West Indian with the West African Medical Service rather to the advantage of the latter. Perhaps in writing to give you a few of the real facts about the conditions out here I may be doing a service both to the members of the West African medical staff, of whom I am one, and to anyone who, knowing no more of the matter than he can learn at the Colonial Office, may think of coming out here and benefiting himself thereby. Economy—on paper—is the fashionable watch-word of the administration at present and it is with economy as practised at the expense of the medical service that this letter chiefly has to do. The ordinary person at home would naturally think that in a climate such as this the medical officers would be people of considerable importance, well paid, well equipped, and with every facility given them for the proper performance of their work.

Let us contrast this with the facts in being. In the first place, there are never enough of us on the coast to supply all the stations. I think I may state as a fact that every station has never been in possession of a medical officer at one and the same time, and some stations have been without any medical officer for months at a time, not once but two or three times in my own experience. There may be a station in Southern Nigeria which is fully equipped with surgical instruments, drugs, and appliances, but though I have been stationed in several places and have discussed other stations with their medical officer I have yet to meet or to hear of one which at all nearly approaches that standard. Many I know have a few old knives and scissors, probably some antiquated tooth forceps, and a post-mortem case, as their equipment for looking after the lives of white men. I have never seen an ophthalmoscope, a liver-abscess outfit, a case of eye instruments, or a case of sounds for stricture—to mention a few out of many absent important instruments provided in any station. That these and other necessaries have been applied for times without number I know well, the answer given being that the huge vote of £1000 a year for drugs, instruments, and sundries for some 80 stations will not cover such expenditure. Many men bring out their own instruments rather than be called upon to face an emergency without proper tools. As to drugs and appliances, one's requisition list is usually shorn of all that is individual to the man making it, and every medical man knows what it means to be without the drugs which he is particularly fond of, and I know of a case where the item of two towels and two dusters for hospital work were cut off a requisition, the result being that the medical officer had to use his own or do without; he did the former. There may be military expeditions on which a medical officer is equipped with an amputation case and a bullet extractor; I daresay there have been but I know of two cases where neither of these necessaries was included, and one of these expeditions lasted over five months. In this last instance the medical officer applied for a trephine; it was refused with instructions to send any patient needing such an instrument to the nearest big station. Oddly enough, a case for trephining did occur, and the patient was sent to the nearest big station, with a loss of time of six days and, curious as it may seem, that station had not got a trephine either.

Before we come out here the Colonial Office pays for a course of instruction at the London Tropical School of Medicine; the value of this instruction is, however, greatly discounted by the extreme difficulty experienced, in spite of the bold assurances given at the Colonial Office, in getting a microscope allotted and sent to one. Economy does not allow the natural remedy for this of keeping a microscope at each station. Numbers of cases are extant of a microscope being supplied in, say, the eighth month of the tour (it sometimes comes as early as the fourth or fifth), while the slides, stains, &c., did not reach the applicant till just before he was going on leave. A hospital for Europeans in every large station would seem a necessity to the ordinary person and there is one I know in South Nigeria and I know of another one

building. But how many lives have been thrown away by there being no hospital accommodation, which is almost universally the case, and how many people have been invalided for the same reason one cannot say, but the number of European officers who *die on the way home* and *in the first three months* after their arrival in England must be added to the Government death-rate to get an idea of the reality.

How can a medical man do his ordinary work and nurse a couple of serious cases day and night—one very likely in his own bed—and do the work properly? It is impossible, even leaving out of the question the danger to his own health and life, but it is done out here constantly and "economy" is supposed to justify it. I know of a case where a European hospital was down and passed in the estimates for 1906 and the building was not started till the middle of October; the reason given—I cannot vouch for the truth of it—was that the governor wished to choose the site on the occasion of his annual visit, and some colour is given to this by the fact that he *did* choose it and a different site from that previously selected by the medical officer of that station. Another instance of economy in connexion with that hospital is that the balcony verandah was originally designed 10 feet wide all round and economy in the shape of the governor cut this down to 9 feet at the sides and 6 feet at the ends.

And now as to the pay. A medical officer gets £400 a year, rising to £500 by yearly instalments of £20; a small percentage pass on if they survive to the giddy height of £800–£700 a year as a senior medical officer, of whom there are three or four, while £800–£900 is given to the deputy principal medical officer and £1000–£1200 to the principal medical officer. Considering the importance of the medical man in this climate let us contrast this with the pay of other professional and non-professional men. Senior district commissioners, £600–£700; ordinary district commissioners, £500–£600; police magistrates (professional), £500–£600; puisne judges (professional), £1000; Solicitor-General (professional), £700–£900; superintendent of telegraphs, £500–£600; marine superintendents, £500–£600; superintendent engineer, £600–£800; engineers, £400–£500; assistant conservators of forests (recruited from anywhere), £500–£700; provincial engineers, £600–£800, and so on; somehow the medical man does not rank very high, but this is not all.

Up to May 1st, 1906, the medical officer as a second class officer (a matter of size of salary) was entitled to a travelling allowance of 15*s.* a day in common with all officers of his standing. In connexion with the amalgamation of Southern Nigeria and Lagos travelling allowances have been cut down to 5*s.* a day for officers of that grade, but a compensating allowance called "duty allowance" varying in amount from £80 to £300 has been granted to every officer of that or higher standing except the medical officer. The excuse for this "economy" is that the medical officer is allowed private practice. Private practice in the majority of stations does not exist, and where it does has not a medical man the right to money earned after Government work is done in the exercise of his profession without a deduction from his salary being made? Much of the work would have to be done whether the Government liked it or not.

Up to last year medical officers had an allowance of £50 a year for doing public health work and many of them took a course in public health and a diploma to enable them to do the work well. Last year an attempt was made to remove this shocking piece of Government extravagance altogether, but a few men were not to be bluffed and finally the allowance was continued in the case of men who had joined the service before Jan. 1st, 1905. Medical officers appointed after this date do not get the allowance, but are, of course, expected to do the work, and equally, of course, they have to submit to having their work criticised and in some cases altered by political or even by army officers or other laymen who, of course, know much more of sanitation than does a medical man. Practically, then, the medical officer is the only person to suffer by this economy, certainly the only professional man, and this surely ought not to be.

Can your influence, exerted perhaps in Parliament, alter, or help to alter, this condition of things? At all events, will you try for the good of the profession? If nothing else can be done, a warning to medical men contemplating joining this service to get a definite contract with everything down in detail in black and white (economy is still going on, "rigid" is now prefixed in official documents) should do good, so that if they join at all they do so with their eyes open, knowing that their living wage cannot be further reduced. Moreover, we think that if they have a full knowledge of the state of things the better class of medical man will not offer himself for this service, which will make the Government treat us fairly, as if the class of medical officer goes down the class of other employees will go down too, the best class of men not caring to risk their lives unnecessarily.

I am, Sirs, yours faithfully,

A WEST AFRICAN MEDICAL OFFICER.

THE ARMY: PROJECTED CHANGES, MATERIAL AND MORAL.

To the Editors of THE LANCET.

SIRS,—In a leading article in THE LANCET of Dec. 15th, 1906, p. 1673, you criticised Mr. Haldane's recent address to the members of the committee which he has called into being to advise the Army Council in matters affecting the spiritual and moral welfare of the army. As you observed, Mr. Haldane's meaning was occasionally elusive and there was much that was nebulous and indefinite in his speech, but at the same time none can deny that Mr. Haldane is probably more capable of clear reasoning and definite expression than the majority of his colleagues in the Cabinet. Perhaps as a philosopher accustomed to the guidance of pure reason he felt a little uncertain as to the terms in which an audience composed principally of ministers of various religious denominations should be advised and as to what topics should be especially recommended for their consideration. Possibly he may have felt that, as you expressed it in your article, "the committee is cut off from a valuable source of information by not containing a medical member." His words when read carefully seem to suggest this, for he said among other things, "nowadays it is realised that you cannot save men's souls without attending to their bodies, and, conversely, it is considered that all cannot be well with their bodies unless it is so with their souls also." In another passage he referred to the importance of inculcating temperance, as a work demanding the coöperation of all interested; and in yet another he said, "Religion is not morality but morality and religion go together; you cannot divorce religion from its surroundings, but if the surroundings become better then the awakening of religious life becomes easier." The moral and religious aspects of a soldier's possible mental training Mr. Haldane naturally found to be inseparable, and he seemed to have on the tip of his tongue admissions that the consideration of his physical circumstances and conditions of life was also involved. Indeed, as has been said above, he referred directly to the evils of alcoholic intemperance and he also made allusion to the opportunity for moral instruction which might be found when the soldier lies sick or injured in a military hospital. At the same time the fact remains that Mr. Haldane has placed no medical man's name in the list of his committee, although it does not consist exclusively of ministers of religion, and although upon it one or more army surgeons of experience in their branch of the profession and one or more physicians of wider experience in some directions than army surgeons may have the opportunity of enjoying would have been of considerable service.

In the various circumstances of barrack life, in the feeding arrangements and in those connected with the supply of alcohol and other refreshments, in the provision of sleeping accommodation, and in sanitary matters there is much which affects physical and moral conditions simultaneously. In connexion with morality, one particular and obvious phase of the question, that of sexual morality, involves physical considerations almost impossible to eliminate from any discussion primarily devoted to the religious bearings of a difficult subject. All the above points and many others need to be ventilated and discussed not only by teachers of religion, and not only by eminent leaders and organisers of soldiers as fighters in the field, but by others whose acquaintance with the soldier is more intimate than that of the general or the bishop (or even the chaplain), and by those whose knowledge of their subject is increased and supplemented by scientific training. The medical man would have his prejudices like other members of the committee. His prejudice, for example, would lead him to oppose any movement which had as its probable result the hindering of the soldier from seeking medical advice at the earliest possible opportunity when infected with venereal disease.

In a recent paragraph *Truth* informed us that "a very

proper order has been issued by Lord Kitchener in India under which men admitted to hospital for certain reasons for which they may be rightly held responsible shall forfeit service pay for 12 months and be required to make up subsequently all guards and pickets which they have missed while in hospital and be disqualified for all paid employment." An order such as this, if it refers to the class of disease mentioned, as it pretty obviously does, might logically be considered likely to impel the soldier to seek early relief in order to avoid recourse to the hospital at a later stage, but the soldier is not logical and it is really almost certain to influence him in a diametrically opposite direction. In addition to military punishment we may now see a tendency to make the soldier ashamed of his moral downfall with a kind of shame which will come home to him when he is infected with disease but which will not prevent him from running the risk of contracting it. As a matter of fact, the effect of such an order as that outlined by *Truth* and of any shame to admit himself a victim will be, almost universally, to drive him to the quack doctor who in India no less than at home, but perhaps more so, lies in wait for a victim whose health he can undermine and whom he can bleed and blackmail to his heart's content owing to the fact that he is liable to an unbending military discipline. A medical man or two with knowledge of the natives and native doctors of India, of the soldier's ways in the "Shiny East," of the leisure on his hands there and of the difficulty which he has in killing time, of the temptations of the bazaar, and of the ways of the native women who may come in the soldier's way outside the bazaar, would be of use as witnesses if the committee is going to call evidence; and in any case would be highly desirable as members of it.

It will be interesting to note if any conclusions are arrived at unanimously by a committee consisting so largely of religious teachers of different sects. The bishop in India, and, I believe, at home, has considerable authority over the army chaplain, and the army chaplain's performance of what he conceives to be his duty at times leads him to do what is not in the rubric, so that he is brought into collision with a bishop whose knowledge is of the rubric rather than of the soldier. The committee contains many other elements not to be described as homogeneous. Will these fuse themselves because they sit side by side round the same table, or will the committee need slightly more of a mundane element to render its deliberations of practical usefulness? From what point of view, for instance, will they discuss the marriage question and what will they say about it? It has its physical and medical aspects and the restrictions on marriage in the army are at the bottom of much of the sexual immorality and venereal disease in it. Will the committee agree to say anything on this topic and, if it does, will what it says be listened to? Or will it say very little and will its observations, if any, be politely filed and forgotten? The matter is one of great interest. The moral atmosphere of the army is such as to keep out of it many thousands who would make good soldiers or to inflict upon them if they enlist intolerable pain and discomfort, often moral deterioration and degradation. It is to be hoped that Mr. Haldane intends to make an experiment of a genuine character, and if anyone can make it a useful one he can. That the *personnel* of the committee might be improved upon will, however, occur to many.

I am, Sirs, yours faithfully,

Jan. 7th, 1907. LOOKER-ON.

THE HYGIENE OF CHILDHOOD IN GERMANY.

(FROM A CORRESPONDENT.)

IN April and May of last year a short course of training for those engaged in the administration of charity and especially in the care of young children was held at Frankfort. Ten years ago a private citizen founded an institution called the "Zentrale" for the administration of charity and the direction of charitable endeavour. While coöperating with existing institutions the new one struck out for itself in various directions. It gave much attention to infant mortality, it arranged holiday colonies, widowers' homes, and maternity insurance clubs, and made arrangements for the better teaching of invalid cookery. The Swiss Federal Government, invited to send a commissioner, chose Dr. Zollinger, whose report on school hygiene at the Paris Exhibition of 1900[1] attracted so much attention. Dr. Zollinger's report on the Frankfort Congress is before us. It is entitled, "Probleme der Jugendfürsorge," and is published in the Year-book of the Swiss Society of School Hygiene.[2]

Stated briefly, the report deals with the whole problem of the production and treatment of the unemployable (*Die Sozial-Unbrauchbaren*). The state of civilisation of a nation can be judged by the means taken to deal with this problem. It must not be taken for granted that it is good for a nation to rely on foreign importations for its supply of unskilled labour or that social inequality can be redressed by the simple act of giving money. The best way of giving relief is to measure the social capacity of the individual and to teach him to make the most of it. If he does his best and yet cannot support himself he must be assisted, but in this case no moral stigma attaches and no moral evil results. Frankfort is a city of Jews, and the Jews have always borne a good name for the care of their mothers and young children. It is not surprising to find that the care of the bearing mother is the first object of the association. A maternity club is in operation which performs the heavy housework for the expectant mother and grants her sick pay during the period of lying-in. Sometimes this help is insufficient, the weekly wage may be stopped or too small to maintain the family in efficient capacity for work. In these cases further help is granted or obtained. Many women to whom a maternity home would be of great service refuse to enter one as they do not care to be the subjects of clinical instruction. Herein the wife of the lower middle-class suffers most. The working woman has no compunction in seeking aid at an institution but the small trader's wife tries to manage her home while she is lying-in. The establishment of a maternity home, without clinical instruction, where the mother can be treated at the rate of her sick pay, is considered a most desirable aim. The working woman is already protected by statute from factory labour for six weeks after delivery but she is not forbidden to do work at home, whether housework or for wages, and this can be prevented by offering her maintenance under conditions which will free her from worry.

In Berlin there is an Association for the Protection of Mothers which publishes a periodical called *Mutterschutz*. But there is a great objection to loose sheets which are easily lost. In some towns a mother is supplied with a pamphlet of instructions, dealing with the care of young children, on registering a birth. This pamphlet also gets mislaid. The best plan is to issue a calendar on cardboard, with rules for a mother's guidance. Such a calendar can be obtained from Hermann Meyer (Frankfurt-am-Main, Bleichstrasse 22). It gives a tear-off calendar with 12 golden rules for mothers on the sides. The first of these is, "Nurse your child yourself." The subject of breast-feeding of infants is becoming of first importance in Germany, where the Kaiserin has given so much patronage to the endeavour to check infant mortality. Professor Mayet, whose views are quoted on pages 23 and 24, advocates that each mother should be put on sick pay by her club for 12 weeks, the pay to begin six weeks before the time of expected delivery. Further, that a premium of 25*s.* should be paid to a mother nursing a child for six complete months and a further 25*s.* for each child nursed for a whole year. He demands that maternity insurance, which is optional in sick clubs, should be compulsory, not because the woman is unable to perform her work properly but because heavy work before delivery is injurious to mother and child. If workmen's insurance be extended in this manner then two-thirds of the births in the German Empire will take place under hygienic and sympathetic conditions and the mortality of infants will receive a severe check. But if a mother is to suckle her child she must be well fed. This means the establishment of a special cuisine for nursing mothers and the supply of suitable food ready prepared for mothers who work in factories. For these women a crèche should be established at or near the factory to which they should have regular access.

Dr. Zollinger gives a detailed description of the arrangements made at Marburg for the care of unweaned children and the supply of milk products to parents (pp. 43 to 57). The Marburg Institute is divided into three departments—one is a home for infants, the second is for the preparation and sale of milk products, and the third is for the supply of

[1] Bestrebungen auf dem Gebiete der Schulgesundheitspflege. Orell Füssli.

[2] Zürich: Zurcher und Furrer.

milk. In the milk kitchen all kinds of milk diets are prepared according to prescription and they can be bought on a medical man's order. What is of interest, however, is the list of rules for the conduct of the dairy. All cows are vaccinated with tuberculin. They are inspected every six months by the veterinary surgeon and revaccinated at least every year. Strict regulations are in force as regards the stalls, bedding, fodder, water, and milking utensils. The milk is tested on delivery at the kitchen for fat and once a week in the bacteriological laboratory. Cows are milked twice a day. Before milking, the operator must wash the udder of the cow and his own arms and hands. He may not begin till the stall is thoroughly clean or operate directly after a dust has been created. The first milk must be drawn out on the floor. The milk-pail must have a small opening and, inside this, a strainer consisting of a boiled cloth must be fixed. It is not improbable that in the near future a separate stall, with glazed tiles and washable floor, will be erected in which all milking will take place. In this stall the hose will be in frequent operation. The products sold are prepared in accordance with the infant's requirements. Dr. Effler of Dantzic has shown that the use of cows' milk causes more than three times the amount of illness and about four and a half times as many deaths as occur among breast-fed children. Professor Mayet calculates the protective power of breast feeding as reducing the mortality by 80 per cent. He considers that the adoption of breast feeding will be ultimately worth 28,000 men annually to the German army. Dr. Röse of Strasburg asserts that the longer a child is breast-fed the less likely is he to suffer from dental trouble and rickets, and the more fitted he will be eventually for military service. The constant appeal for military *Tauglichkeit* (fitness) is the least pleasing feature of the agitation. But the German knows his own people best and must select the motives on which to work.

The attention given by Dr. Zollinger to the treatment of illegitimate children, to which 50 pages are devoted, shows that these unfortunates are likely to bear less of the stigma of their birth in the future. At Frankfort the Zentrale takes over the guardianship. In Berlin a special home is opened for girls of a respectable class who have been betrayed. These suffer most of all, for their relatives consider only their own position and are anxious to lose all sight of the girl. It is of great importance that illegitimate children should be prevented from joining the ranks of the morally abandoned and later the criminal classes. For this purpose it is usual in Germany to provide the child with an official guardian. At Leipsic he acts from birth up to the time when the child leaves school. At Frankfort a close inspection is made of all boarded-out children. For particulars of the treatment of illegitimate children in the large towns of Germany the reader cannot do better than turn to Dr. Zollinger's pages.

Two other features of the Frankfort organisation call for consideration. The widowers' home is an institution for working men in which a home is provided for each family. The children are cared for and fed. They spend their leisure with the father and sleep at night in dormitories. The rent of a two-roomed house is from 3*s*. 6*d*. per week; the charge for board is: for one child 3*s*. 6*d*., for two children 6*s*., and for each other child 1*s*. extra per week. On Sundays a dinner for parents is provided at 4*d*. per head. Workshops can be hired in the basement at moderate rents.

The treatment of juvenile offenders receives a great deal of attention in the volume. The American system of separate courts is recommended for adoption and a system of placing the youthful offender on report, or of postponing sentence, receives favourable notice. For the treatment of these interesting subjects there is no room here. Those who wish to learn Dr. Zollinger's views will perhaps be content with the following recommendations which conclude his report.

1. Courses of instruction in the care of children should be formed. They need not last more than a fortnight, but they should embrace both theory and practice and be suited to the needs of officials and private persons.
2. In large communities, by the amalgamation of small philanthropic societies, a central institution, similar to the "Zentrale" in Frankfort or the Zentral-Stellen in Berlin and Dresden, should be formed.
3. All arrangements that fit a mother better for her duties should receive official encouragement. In this respect the dictum of Comenius that the care of the child begins with conception should be remembered.
4. The interest of the State in the child does not begin when the child arrives at school age but on birth, and is needed most in the case of children who are situated in abnormal circumstances.
5. Special care must be given, from official sources, to illegitimate children. Official or professional guardianship should be introduced to protect mother and child and to guarantee proper medical and educational care. Guardianship should begin before birth and continue till the child has finished its apprenticeship.
6. Breast feeding should be supported in every possible manner. On the registration of a birth the mother should receive a paper of instructions on the care of infants. The parish council should undertake the supply of milk for infants. Infant nursing homes should be eligible for grants of public money.
7. The establishment of crèches, day homes, and widowers' homes corresponds to a social want. Public encouragement should be given to any scheme for meeting this want.
8. The establishment of holiday colonies, country schools, and of school clothing clubs should be encouraged. All schools should be under medical inspection.
9. The care of children is best managed, in general, by the family. But in cases of physical or mental weakness it is better intrusted to an institution.
10. An Act should be passed dealing with the subject of the protection of infant life. It should fix the age of responsibility at a minimum of sixteen and should provide for special courts for the trial of youthful offenders. It should contain some scheme for placing an offender on report or under supervision.

THE PARIS ABATTOIR AT LA VILLETTE

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

PARIS is so beautiful a town, incomparable in so many respects, always charming and attractive, that its example influences the whole civilised world, but more especially the larger towns of France. What Paris does other towns strive to imitate. This is not always an advantage. In regard to the slaughter-house question it has proved a decided disadvantage. Certainly Paris early in the history of municipal enterprise instituted public abattoirs, but in so doing it allowed the private interests of a trade to interfere with the interests of the public at large. The public slaughter-houses of Paris are vast institutions. Indeed, they have become public show places, especially the largest, situated at La Villette. Here notably a public reception was given to the members of the London County Council when they visited Paris last February. The sight was very impressive. The vast extent of the open space at the approaches of the slaughter-houses facilitated the accumulation of a large crowd and the display of military as a guard of honour. Also the abattoir covers 16 hectares (about six acres) of ground and it is a municipal institution. Viewed at a distance by non-technicians it seems to be a very vast and fine installation. In all this, however, appearances are deceptive. Paris is not setting an example to the world, and not even to France in respect to abattoirs. Paris only followed the example of the French provinces and followed it badly.

A very important work has just been published on this question. It is entitled "Les Abattoirs Publics." The first volume has 902 pages and many illustrations. The largest half of the book is devoted to cold storage and the rest to the construction of slaughter-houses and all that appertains to them. It is written by M. J. de Loverdo, sanitary engineer, licentiate of sciences of the Sorbonne, who for four years travelled in various countries on behalf of the French Ministry of Agriculture to study all that related to the question of abattoirs, meat storage, &c. The second volume of this great work, one of the greatest of the books, if not the greatest, written on the subject, has 645 pages, with many illustrations some of which are admirably coloured. The principal author of this second volume is M. H. Martel, doctor of science and chief of the sanitary veterinary service of Paris. He is assisted by M. Mallet, veterinary surgeon and director of the Angers abattoir. This second volume deals with the inspection and administration of slaughter-houses and cattle and other markets. To M. Martel personally I am indebted for a great deal of information and for his kindness in devoting much time to show me round La Villette abattoir. This was a little trying for him, I fear, as he had to confess at almost every step the imperfections of the installations and methods adopted. But these are certainly not due to any neglect or ignorance on the part of the officials. The latter have been unceasing in their complaints and protests. With the assistance of the big volumes just mentioned I am now able to describe not merely what I saw at La Villette but can also explain how the present evils arose.

This article commences a short series describing slaughter-houses in different countries, the object being to bring together materials from existing practice to form a basis for a constructive policy.—ED. L.

It appears that the butchers were a specially privileged section of the community. In the celebrated encyclopædia which so effectively contributed to bring about the great French Revolution Diderot wrote a long article under the heading "Butchers." Here it is shown that the butchers of Paris contrived to secure some of the advantages that were accorded to the butchers of ancient Rome. It was a very close corporation. The right of being a butcher was restricted to certain families and these formed a sort of aristocracy. They were very rich and able to make loans to the king and to buy privileges which exempted them from the action of the common law. It would seem, however, that the butchers ultimately made abusive use of these advantages so that their special privileges were abolished by Royal decree in March, 1719, and they then came under the common law. The Revolution in 1789 abolished all the guilds or trade corporations and then, as anybody who chose could become a butcher, abuses due to excessive licence soon arose. A decree therefore, dated the 8 Vendémiaire of the year XI., re-established the butchers' corporation and limited the number of butchers' establishments. Thus the trade won back a great deal of its lost influence. The numerous private slaughter-houses which rendered life hideous in the suburbs of Paris were abolished by law, and finally a decree was issued on Feb. 9th, 1810, ordering that five public slaughter-houses should be built at the cost of the town of Paris. Thus, if the London County Council can make very great haste and bring much pressure to bear there is just a chance that in obtaining public slaughter-houses London will not in this respect be more than about 100 years behind Paris. By the way, I know that THE LANCET is no supporter of those who are ever girding at the London County Council, if only because THE LANCET has no politics, but it is the duty of all sanitarians to insist that in the matter of slaughter-houses much remains to be done by the municipal authorities of our capital.

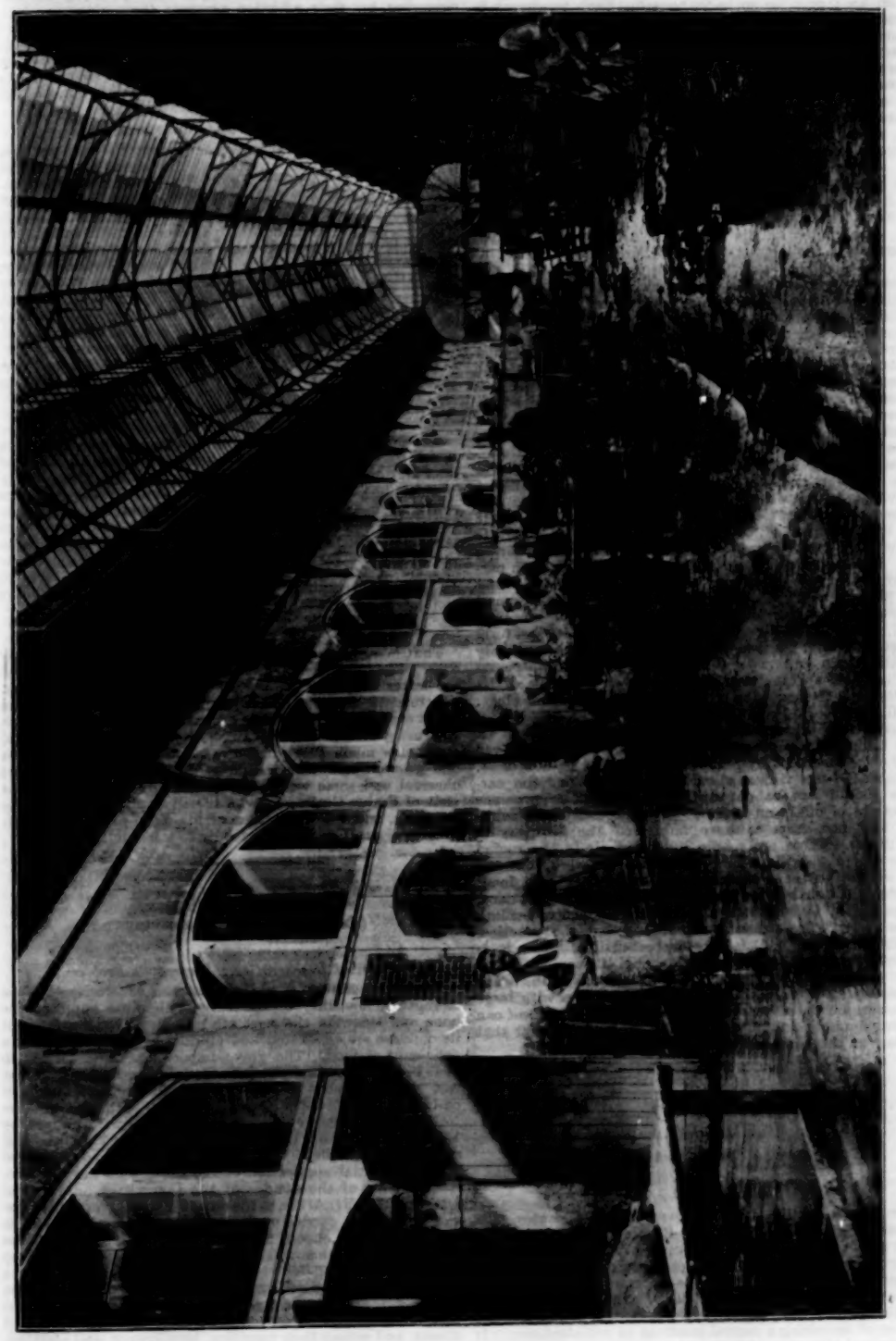
The city of Paris was not, however, the first to move in the matter. There had been something like public slaughter-houses in the Middle Ages, such as the *écorcherie* at Amiens, built in the thirteenth century, at Lunel in 1366, and a century later at Troyes and Sommières. But what might more justly, and in the modern sense of the term, be considered as public slaughter-houses were built from 1780 to 1812 at Rochefort, Blois, Grenoble, Orleans, and other provincial towns. M. de Loverdo gives the plans of some of these abattoirs built a century ago and claims that in them will be found the prototype of the most perfect slaughter-houses of modern Germany. How is it, then, that to-day the French abattoirs are very inferior to those of Germany? The fact is that in building the first public slaughter-houses the advantages of working together in public were considered of the greatest importance. A large hall is easier to watch over, to clean, to ventilate, and to illuminate than a number of small separate compartments. Thus in these earliest of French public slaughter-houses, just as to-day in the latest types of perfected German and Swiss slaughter-houses, there are no small private killing-sheds but large, brilliantly illuminated halls where no concealment or privacy is possible. This was done in the provinces because in the smaller towns the butchers' corporations were not as powerful as in Paris. In Paris the butchers extracted a promise from the authorities that if their private slaughter-houses were abolished they should enjoy equal freedom and privacy in the public slaughter-house. Therefore the plan first proposed for a large slaughtering hall had to be abandoned and schemes prepared so that each butcher might have a small compartment entirely to himself.

The first five public slaughter-houses of Paris were erected at the Roule, Villejuif, Grenelle, Ménilmontant, and Montmartre. When first occupied in 1818 the butchers were greatly surprised to find that their habits were in nowise interfered with or altered. The plan then adopted has not been altered since. It consists of two long rows of low buildings with a court between them. Giving on to the court, which is often roofed over, there are numerous compartments something like coachhouses. At the back of each compartment there is a small door opening on to a road and there the meat can be taken away or the live cattle brought in. In front of each compartment there is a large double door which, when open, not only supplies air and light but enables the butcher to step out and do a part of his work in the court. At a distance these structures look like long, low, and broad pavilions but when seen close to and from either end the centre appears as a great glass-roofed gallery and on the sides only is there solid masonry to wall off each butcher's private compartment. In some abattoirs this centre is not roofed over and then it appears like a thoroughfare or street.

These five ancient slaughter-houses cost the city of Paris about £800,000 and occupied 156,500 square metres of land. It is calculated that the land cost 6 francs, the building 109 francs, and interest on capital during the period of construction 13 francs per square metre. Altogether, 128 francs, or £5 2*s.* 6*d.*, per square metre. The actual amount of land covered by buildings was 43,000 square metres and the cost of construction if divided by this smaller figure would amount to 395 francs, or £15 16*s.*, per square metre of building. These figures are interesting, for they show that more than two-thirds of the land were left open and not built upon; thus such structures as did exist were amply surrounded with space, so they would be exposed from roof to floor to the direct and purifying rays of the sun. Also, it must be recognised that the earliest architects of the Paris public abattoirs studied with minute care how to provide an ample supply of water, and even in those days, when the necessity of public sewers and domestic drainage was not appreciated, still it was thought indispensable to supply the slaughter-houses with sewers. Likewise it was early felt that the ground should be protected from pollution and therefore cement and very thick pavement or flagstones were laid down wherever animals were to be slaughtered. All this was done under the direction of the Paris municipality from 1810 to 1818, the period during which the five first public abattoirs were built. This is a fact and a date that should be taken to heart by every town and borough councillor of Great Britain. Before commencing to build, the architects had studied all that was done in this respect in Italy and in Spain and this was before railways rendered travelling an easy matter and while wars were still devastating Europe. The opposition of the butchers marred their plans but nevertheless they set a great example. They created a new sanitary service, an institution which served as a model for all Europe during more than the first half of the nineteenth century.

In the course of time as the population increased and new quarters were inhabited the position of the five abattoirs became less suitable. New slaughter-houses were built and some of the old ones were abandoned. In 1860 there were ten public abattoirs in Paris. This was the time of the Haussmannisation of Paris, when so many improvement schemes were eagerly promoted. It was then decided to abolish all the abattoirs on the north side of the Seine and to replace them by one single abattoir at La Villette and close to the cattle market. Such concentration is now very generally recognised to have been a mistake. The distance that some butchers have to travel from their shops to the abattoirs is often more than four, and sometimes even six, miles. This increases the risk and difficulties of transporting the meat and has brought into existence intermediaries who have to be paid, and this increases the price of meat. Concentration of slaughtering in a public abattoir is good and necessary, but there is a limit, and one abattoir is not sufficient for more than a million people. Paris has 2,741,068 inhabitants and by far the greater half live on the northern side of the Seine. La Villette abattoir is built close under the fortification to the extreme north-east of Paris. It is approached by the broad Route de Flandre and is hedged round by the fortifications, the canal de l'Ourcq, which contains very impure water, and the canal Saint-Denis. From the main entrance in the Route de Flandre the grounds widen out like a fan. There are 20 very similar pavilions. Along the length of the pavilions run streets, like the spokes of a fan or a wheel, and across the extremities run broad tree-planted avenues.

The crescent-shaped entrance off the Route de Flandre forms the handle part of the fan. Here is a vast yard with a clock tower in the centre. The first buildings on entering are the porter's lodge and the offices of the *octroi* where the town dues are paid on the meat as it leaves the slaughter-house to be delivered to the butcher. Then standing by themselves on each side of the clock tower are two large buildings with a rotunda in the centre. One is used as an auction and sale room for meat and the other contains various offices for the different administrative services. Here are the sanitary services and I have never seen a more miserable installation. In the dingy little office set aside for the veterinary surgeons there is but one old microscope, while there are



The Paris Abattoir at La Villette. The roofed court uniting two slaughter pavilions. Each double door is the entrance to a butcher's separate private compartment. Pegs on the moveable wooden partitions show where meat is hung over the filth and manure stagnating on the floor.

no decent chairs, no books, no laboratory, and no sign of comfort or dignity. It is extraordinary that such an important service should be so badly housed. Such treatment is altogether unworthy of a town like Paris. The municipality should insist that its functionaries and officers must be treated with proper respect by being supplied with suitable quarters in which to do their work. When Sir Edwin Cornwall and the members of the London County Council went to La Villette they were received in an auction-room and under a domed and lofty roof. They never saw the dark, dirty, barely furnished, and cheerless little office where the veterinary surgeons and meat inspectors do their clerical work. The visitors did see one of the slaughtering pavilions but it had been cleaned and duly prepared for inspection.

To the non-technical observer these pavilions when empty and clean are likely to produce a favourable impression. The roofed middle court has a Crystal Palace-like appearance. The visitor notes the presence of plenty of light and air. He sees that each butcher has his own private compartment, with a big double door and a little loft above to use as a storage room. It requires practical knowledge of the work to realise that inside these separate compartments there are less light, less fresh air, and none of the modern mechanical contrivances which not only facilitate the lifting and transport of carcasses but help to keep the meat free from contact with dirt. A few wooden rafters across the ceiling, an old-fashioned pulley and rope, that is all that exists to lift the heavy carcasses of horned cattle. There are no less than 216 of these private compartments in which animals are killed at La Villette, and naturally it is impossible for the meat inspectors to go in and out and watch efficaciously all these different shambles. As a result extraordinary disorder prevails. The butchers throw open their doors and do a great deal of their work in the open court, thus showing that after all there is no such very urgent reason against a common slaughtering hall. But as this court belongs to all, and to no one in particular, there is no order kept. The butchers do just what they please; so the viscera are thrown down on the ground and the stomachs or intestines are opened and emptied. Blood, manure, half-digested food, and offal collect and form a disgusting coagulum, so thick and heavy that it can only partially drain away. In Germany a visitor can inspect a slaughter-house while wearing dancing shoes; but at La Villette it is necessary to wear great heavy wooden clogs. (See illustration.)

Luckily the pavement is carefully cemented throughout all these killing places, though there are some parts reserved for the treatment of by-products where this is not done. Undoubtedly the viscera should be removed and the carcasses should not be cut up in the immediate presence of swamps of offal and manure. The necessity of cleanliness does not seem to have impressed the butchers of La Villette. There are ample light and air in the roofed courts where they do a large part of their work, but the filth on the pavment is sometimes ankle deep. So long, however, as their wooden clogs are sound they do not care. The pavement is laid with a gutter in the centre leading to the sewer. The structure is not bad, but the practice, the absence of method, is most reprehensible. Also it is absolutely wrong that meat should hang, if even for only a short time, in close proximity to so much filth. The accompanying illustration shows wooden frames with large pegs on which the carcasses of sheep or quarters of beef can be hung immediately above the dung, blood, and offal that stagnate on the pavement.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

An Institute for Deaf-Mutes.

THERE are in Birmingham about 700 deaf-mutes, the majority of whom belong to the Birmingham and Midland Adult Deaf and Dumb Association, and although, as a rule, scarcely more than a fourth of the whole number can attend any given social meeting, still the accommodation possessed by the association is quite inadequate. This being the case, an attempt is shortly to be made to secure funds for the purpose of acquiring a central institute of sufficient size. It is estimated that about £5000 will be required. The scheme should meet with success, as the people for whose benefit it is intended are for the most part thrifty, energetic, and deserving, but their affliction prevents them obtaining high wages. They are therefore thoroughly deserving of help, and the help may be given the more freely to these people inasmuch as there does not seem to be any marked tendency towards the transmission of the affliction from parents to children, consequently benevolence in this direction will not help to perpetuate degeneracy.

Scarlet Fever and Diphtheria.

In spite of a slight recrudescence during the past week we seem now distinctly to have passed the summits of the mild epidemics of scarlet fever and diphtheria which have simultaneously held sway in the city. Both epidemics commenced in September. On the 29th of that month there were 271 scarlet fever and 49 diphtheria patients in the hospital. By the middle of November the number of the former had risen to 382 and of the latter to 103, and on Saturday last the scarlet fever patients had been reduced to 318 and the diphtheria patients to 101. No doubt fluctuations may yet occur but it is scarcely probable that there will be any steady increase during the next few months. Luckily both epidemics have been very mild and the deaths extremely few. It is to be hoped that the after-effects will be few but that we shall never know, for it is not possible at present to obtain trustworthy statistics of the sequelæ.

"Seasonable" Weather and the Death-rate.

The after-effects of the severe weather at Christmas have shown themselves, and our death-rate rose first to 18·3 and then, during the past week, to 22·0 per 1000. The increase is due almost entirely to deaths from respiratory diseases which rose from 39 to 61. It is doubtful if a green Christmas time, in spite of the traditional fat churchyard associated with it, would produce so striking an increase in the death-rate, and many of us who are past the enjoyments of snow and frost will hope that it may be long before such another "seasonable" Christmas is recorded, for discomfort and death are its handmaids.

Christmas and New Year in the Hospitals.

The Christmas and New Year festivities are now completely over. The former were enjoyed in so-called seasonable and the latter in unseasonable, but more comfortable, weather. Whether the weather had anything to do with it or not there was a snap and go about the Christmas merrymaking which was more or less lacking at the New Year. Our hospital staffs give much thought and work to make everything look and go well and as a result all the hospital wards were cheerful and some were quite artistically decorated. The visit of Father Christmas, who is still an institution in some hospitals, and the distribution of his gifts, proved, as usual, sources of great delight, especially to the children.

Jan. 8th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Physical Degeneration: Liverpool's Problem.

RECENT disclosures would warrant the conclusion that the strength and virility of the class which has supplied the bone and sinew in the past are decaying because many of its children are emaciated and stunted in growth owing to a deficiency of food. The grave importance of the situation has been recognised by the legislature in the recent Act of Parliament passed for the feeding of underfed children. The paper read on Jan. 5th before the North of England educational conference at Bradford by Mr. A. S. Arkle of Liverpool on the subject of physical degeneration is deeply interesting, and showed the need of a substantial application of the benefits of the measure. At the time of the sittings of the Committee on Physical Deterioration Mr. Arkle, at the request of the Liverpool education committee, carried out a series of investigations in three typical council schools in Liverpool, "rightly judging that true knowledge of any existing evil is the first essential step towards remedying it." His observations extended over a period of 12 months. He minutely examined all the children in those three schools, taking their height, weight, chest measurement and expansion, condition of eyes, nose, and throat, and noting their nutrition, intelligence, and clothing. For comparative purposes he also examined all the boys in

the principal secondary schools in Liverpool and Birkenhead. The conclusions arrived at as a result of these investigations were as follows:—

(a) That the difference of physique between the children in the secondary schools and the poorer council schools has reached an alarming proportion; (b) that this deterioration appears to grow greater as life progresses; (c) that, medically, there is nothing to account for the deterioration; and (d) that the industrial school figures show that by care and attention this deterioration can be stopped and to some extent, at any rate, the leeway made good.

The total number of children whom Mr. Arkle examined was 2477—from secondary schools, 366; from elementary schools, 2111. The results obtained were nearly identical in all the secondary schools and to make the average yield a fair test, when compared with other schools, a large group of boys in this class had to be taken. In the matter of height he found the average, at seven years of age, of boys in the secondary schools, to be 3 feet 11·8 inches, as compared with 3 feet 9·3 inches in the best class of elementary schools; whereas in the worst class of the latter the average height was only 3 feet 8 inches. At 11 years of age the average height of boys in the secondary schools was 4 feet 7·5 inches, as compared with 4 feet 1·7 inches in the lowest class of elementary schools. At 14 years of age 5 feet 1·75 inches was the average height in the secondary schools, as compared with 4 feet 7·25 inches in the lowest class of elementary schools. The weights of the boys in the different classes of schools were equally remarkable, showing at 14 years of age an average difference in weight of 1 stone 9·25 pounds in favour of the boy at the secondary school. Mr. Arkle concludes his paper by saying that the results of his investigations (a portion of which are condensed here) force him to the conclusion that degeneration has reached an alarming stage. He asks, Of what use is it to educate children whose minds and bodies are absolutely unable to benefit thereby?

Sir Rubert William Boyce, F.R.S.

Professor Sir Rubert W. Boyce, the dean of the School of Tropical Medicine, who has been in ill-health for some months, was a passenger on board the R.M.S. *Karina* which sailed from the landing stage on Jan. 5th for Madeira. Sir Rubert Boyce was accompanied by Dr. C. Boyce and a nurse. A large number of friends arrived at the landing stage to wish him *bon voyage* and a general hope was expressed that he would return to Liverpool and to his duties at the Thompson Yates laboratories restored to his usual health. Sir R. Boyce, though still feeble, appeared to his friends to be gaining in strength.

Liverpool Infirmary for Children.

Her Royal Highness the Duchess of Albany will open the new infirmary for children on Thursday, Jan. 10th. Her Royal Highness, who will be the guest of the Earl and Countess of Derby, will be received at the new infirmary by the Lord Mayor and Lady Mayoress, the president of the infirmary, the chairman of the building committee, the honorary treasurer and honorary secretary, and the lady members holding official positions. The Lord Mayor will preside at the opening ceremony and the president of the hospital will ask Her Royal Highness to declare the building open and to receive purses from children. A vote of thanks to Her Royal Highness will be moved by the Earl of Derby and seconded by the Lord Bishop of the diocese.

The Cost of a Snowfall in Liverpool.

The health committee expressed much pleasure at its meeting on Jan. 3rd on the expedition with which the snow had been cleared from the streets after the fall on Dec. 30th. The cost was £2500, of which £1075 were paid to unemployed labourers at the rate of 4*s.* per man a day. In the neighbouring borough of Bootle the call for labour to clear away the snow was not responded to, causing much delay in removal and inconvenience to traffic generally.

Jan. 8th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Pauperism in Wales.

IT appears from the recently issued return of the Local Government Board that the number of paupers relieved on July 1st, 1906, in the whole of England and Wales, including London, was equal to 25 per 1000 of the estimated population and to 28·5 per 1000 in London alone. Judged by the same standard there was considerably less pauperism in the southern counties of Wales than in the northern. In the six southern counties the proportion of pauperism to population varied from 16·9 per 1000 in Radnor to 26·3 per 1000 in Cardigan and in the six northern counties from 23·3 per 1000 in Denbigh to 33·4 per 1000 in Anglesey. The proportion in this last county is the highest in the whole of England and Wales, the next being Merioneth with 29·4 per 1000. It is very doubtful whether these figures really indicate a greater amount of poverty in the northern part of the principality or merely point to greater laxity in the administration of the Poor-laws.

Inferior Milk in Cardiff.

A dairyman was summoned in Cardiff on Jan. 3rd for selling milk adulterated with boric acid to the committee of the Cardiff Infirmary. The defendant is under contract with the committee of that institution for the supply of milk. Evidence showed that the milk had 45 per cent. of added water, was deficient in fat to the extent of 10 per cent., and was adulterated by the addition of 0·046 per cent. of boric acid. The defendant was fined £10 and costs, the magistrates accepting the theory that the adulteration was accidental.

Pollution of the Avon at Bath.

At the last meeting of the Somerset county council it was decided to take proceedings against the corporation of Bath under the Rivers Pollution Prevention Act, 1876. The corporation does not admit that pollution of the river Avon takes place within the city boundaries. A scheme for providing sewage outfall works was considered some years ago, but the very great cost of the undertaking was apparently prohibitive and less costly proposals have not been sufficiently comprehensive.

Diphtheria in Chipping Sodbury.

In the autumn of last year a more or less circumscribed outbreak of diphtheria occurred in the rural district of Chipping Sodbury in Gloucestershire. There were altogether 35 cases, nearly half of which were in the parish of Frenchay. In a report which Dr. Francis T. Bond has presented to the district council he says that in treating such an outbreak the general impression seems to be that the proper course is to send the patients to the isolation hospital for treatment. Although cases of an exceptional character may with advantage be treated in an isolation hospital, he deprecates the crowding of the wards with every case that occurs, a course which would neither be in the interests of the patients nor economical for the ratepayers. There is abundant evidence, he says, that if antitoxin is administered promptly and in sufficient doses the risk of a fatal termination to a case is reduced to a minimum. In his opinion, when a medical practitioner considered that he had sufficient evidence to notify a case to the sanitary authority, it was the duty of such practitioner at once to administer antitoxin and thus to render it unnecessary to send the patient to the hospital.

Bridgwater Rural District Isolation Hospital.

Sanitary authorities have from time to time resorted to various expedients in order to lessen the obligations cast upon them by the Public Health Acts, but surely none is more ingenious than that which has been proposed to the Bridgwater (Somerset) rural district council. A committee of the council was appointed to consider the question of providing an isolation hospital and the council has now adopted the recommendation of the committee that every year a subcommittee should be appointed to assist the inspector of nuisances in seeking for a suitable building in which to accommodate infectious diseases whenever such is required.

The St. Columb Board of Guardians and Vaccination.

At a meeting of the St. Columb (Cornwall) board of guardians held on Jan. 3rd the vaccination committee reported that after examining the books of the public vaccinators it was of opinion that the charges brought against a public vaccinator by the Local Government Board inspector could not be substantiated, as it could find no evidence of postponement certificates being granted for trivial reasons, and in all cases of postponement he afterwards, with the exception of his own child, had vaccinated every child. The guardians unanimously adopted the report, and decided to send a copy of the correspondence with the Local Government Board to Mr. McArthur, M.P. The matter has been already reported in THE LANCET, and it will be remembered that the Local Government Board refused to sanction the appointment of the public vaccinator in question, whilst the guardians would not rescind his appointment by them.

Jan. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Year's Work of the Edinburgh Royal Infirmary.

A MEETING of the general court of contributors of the Edinburgh Royal Infirmary was held on Jan. 7th. The annual report shows that the number of patients treated in the wards was 11,216; of these, 820 died, while of this number 192 died within 48 hours of admission. In the out-patient department 37,235 patients have been treated. The total ordinary income for the year was £33,695, being slightly less than the sum received in the previous year. Hospital tickets showed an increase of £226. The ordinary expenditure amounted to £52,116, being £1972 more than in the previous year. The increased expenditure is accounted for by an increase of 11 in the number of occupied beds, the increased cost of the new surgical out-patient department, the introduction of massage treatment, the perfecting of the telephonic system, the increasing cost of the electrical department, and the increased demand for modern appliances both in the medical and surgical departments. The report mentions a number of improvements and additions made to various special departments which have added to their efficiency. The expenditure, while it has increased, shows that great reductions and economies have been effected within the past few years, notably in fuel. Under the head of wines, spirits, gluten, bread, and meat extracts there has been a reduction from £736 to £299; in the detail of beeswax and turpentine for polishing the floors there has been a saving of £150! In referring to the annual report in the past few years reference has been made to the valuable work which Colonel Warburton, the present superintendent, has done in effecting great economies in the working of the infirmary without in any way reducing its efficiency and there is no doubt that his administrative ability is still effective. The legacies and donations of £100 and upwards amounted to £22,670. The extraordinary expenditure amounted to £14,352, including sums for drainage, reconstruction of operating theatres, new surgical out-patient theatre and reconstruction of the department, electric lighting improvements, &c. The new surgical out-patient department, which has made a charge of about £700 a year upon the funds, is regarded as justifying the initial outlay and the annual expense. The reconstruction of the incidental delirium department and of the medical out-patient department has been delayed owing to the urgency of other works requiring to be completed. The report ends with an appeal for more funds and the expression of the hope that the managers will not be compelled to encroach upon their reserve funds.

Complimentary Dinner to Dr. Norman Walker.

The Fifeshire Medical Association, of which society Dr. Norman Walker was recently president, entertained him at dinner in Kirkcaldy on Dec. 28th, 1906, on the occasion of his election as Direct Representative for Scotland on the General Medical Council. Mr. R. Balfour Graham of Leven, the present president of the society, proposed the toast of the evening, which was suitably replied to by Dr. Walker.

The Scottish Poor-Law Medical Officers' Association.

The report of this association has just been published. It shows that the action of the association in behalf of its members in respect of the autocratic decisions of parish councils has been most valuable, and has also received considerable endorsement from the Local Government Board. An increasing number of Scottish Members of Parliament are manifesting interest in the present highly unsatisfactory position of the Poor-law medical officers of Scotland.

Reconstruction of Glasgow Royal Infirmary.

The work of reconstructing the Glasgow Royal Infirmary on the plans sanctioned by the directors has made considerable progress during the past year and some idea can now be had of the form which the institution will take when finally completed. The new structure, speaking generally, consists of three blocks. To meet the necessity of carrying on the infirmary with unimpaired efficiency while the new buildings are in process of erection it was resolved to proceed first with the northern block, which will occupy a site on what was formerly vacant ground lying between the present northern surgical block and St. Mungo's College. The first turf was cut on May 25th, 1905, and already the building has been carried to the height of the first of the five storeys of which it will consist. To make way for the new gateway block which will be erected a little to the north of the present entry to the wards, the old gateway block has been demolished, and the work of excavation and laying the foundations for the northern portion will be begun very shortly. In this block there will be a waiting-hall for patients and their friends, examination rooms, and two small operating theatres. The other half of the block, which cannot be undertaken in the meantime, will contain the casualty wards. The entire scheme when finished will give accommodation for 680, as compared with 584 patients in the present institution. In the northern block, with the erection of which a beginning has been made, there will be accommodation for 250 patients, and so soon as it is finished it will be occupied, the patients being transferred from one of the sections of the old building, and further work of reconstruction will be commenced. No decision has yet been arrived at as to which of the remaining blocks will be built first. The directors have, however, in contemplation an immediate extension of the nurses' home to be erected to the eastward of the present building. A new power-house and laundry are also to be erected in connexion with the scheme of reconstruction.

Appointments to Glasgow Royal Infirmary.

At a meeting of the managers of Glasgow Royal Infirmary held last week the following appointments were made: Visiting physician, J. B. McKenzie Anderson, M.B., C.M. Glasg.; anæsthetist, J. King Patrick, M.B., Ch.B. Glasg.; and extra assistant bacteriologist, Miss Lizzie Fraser, M.D. Glasg.

Glasgow Corporation and Sweated Labour.

A special committee has been appointed by the town council of Glasgow to consider the question of "sweated labour" among women and children as it exists in the city of Glasgow. The scope of the inquiry is to be as follows—viz., to hear evidence from the medical officer of health, the sanitary inspector, the Scottish Council for Women's Trades, the Glasgow Trades' Council, the Scottish Christian Social Union, and other bodies interested in labour questions as to their knowledge of sweating among women and children; employers and employees as to the conditions, hours, and wages of women and children in regard to work performed for factories and workshops by inside and outside workers; and workers who do work at home solely on their own account.

Jan. 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Prevention of Tuberculosis in Dublin.

A GREAT deal has been spoken and written about this important matter but not very much has been really done. Sir Charles A. Cameron, medical officer of health of the city, recently addressed a letter to the press from the municipal buildings in connexion with the work recently performed by the disinfecting department as regards pulmonary consumption. The letter shows that the deaths caused by pulmonary consumption in 1906 numbered 937 and were fewer by 30 than in 1905. Of these deaths 182 occurred in the Hospice for the Sick and Dying, the Incurables Hospital, and lunatic asylums; 66 in the general hospitals; 140 in the North Dublin union; and 128 in the South Dublin union, making a total of 516 in public institutions, or more than half the total deaths from consumption. Sir Charles Cameron says that the Registrar-General sent every week a list of the deaths from consumption which enabled disinfection of the rooms occupied by the deceased to be carried out. 258 dwellings were disinfected after deaths from consumption. Only 12 of these deaths were notified by medical men, all of whom were dispensary physicians. 24 dwellings were disinfected on notification from physicians that the patients had been removed from them, and 30 dwellings were disinfected on notification from the union authorities that consumptives had been admitted to the union from these dwellings. In 23 instances incorrect addresses of the deceased were given. Of the 421 deaths that occurred outside public institutions the premises occupied by the deceased were disinfected in 312 instances.

The letter is, and was, of course, intended to be, a forcible argument in favour of a system of compulsory notification of pulmonary tuberculosis.

Royal College of Surgeons in Ireland.

The annual college dinner will take place on Jan. 26th. His Excellency the Lord Lieutenant has graciously signified his intention to be present. A meeting of the College will be held before the dinner for the purpose of conferring the Honorary Fellowship on Mr. Priestley Smith, professor of ophthalmology in the University of Birmingham.

The Health of Belfast.

In moving the adoption of the minutes of the public health committee at the meeting of the Belfast corporation on Jan. 1st the chairman (Dr. J. King Kerr) questioned the estimates of the population of Belfast made by the Registrar-General and stated that in his opinion "the death-rate for the last two years has been over-estimated as contrasted with the under-estimate prior to 1901." He thought that the facts showed that the statistics were absolutely untrustworthy referring to the last 12 years, with the exception of one year, adding that "Belfast had one of the lowest death-rates on record." It would have been wiser to allow the statistics of the year that has just closed to be put before the public by the recognised official authority, the Registrar-General, because the means employed hitherto by the health authorities of Belfast to collect any statistical information, apart from that supplied to them by the Registrar-General, have not been remarkably wise. To say that "Belfast had one of the lowest death-rates on record" when the medical officer of health, at the same meeting at which this statement was made, reported the death-rate as being 18·1 per 1000 was over-bold. A point in favour of the existing health administration of the city was made "that typhoid as an endemic disease was gradually dying out in our midst," but the official methods of trying to combat the late milk typhoid epidemic were not quoted. When attention was drawn by one of the council to the custom of milk-carts collecting refuse before returning to the dairies (any afternoon one can see carts of manure going out of Belfast with small empty butter-milk wooden vessels on them) the reply given was that the public health committee had no power to stop the revolting procedure. Possibly; but powers should have been acquired to prevent such a nuisance the moment it came to the official ears. The public health committee will have plenty of matters to explain at the coming commission on the health of the city.

A Nurse's Decoction.

At an inquest held in Belfast on Jan. 4th, in reference to the death of an infant, five days old, the nurse who had been in attendance said that she gave a quarter of a teaspoonful of the following mixture to the child owing to the infant having pains: a pennyworth of magnesia, a pennyworth of sweet manna, a pennyworth of sugar, a pennyworth of tincture of rhubarb, a pennyworth of essence of aniseed, and a half-pennyworth of laudanum. This she boiled for an hour and then gave the child a quarter of a teaspoonful. The jury found that the child had died from opium poisoning due to the nurse, through ignorance, administering an overdose of laudanum for the purpose of relieving pains.

Jan. 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Early Diagnosis of Tuberculous Disease.

AT a meeting of the Academy of Medicine held on Dec. 18th, 1906, M. Barot read a paper in which he endeavoured to show that tuberculous disease might be diagnosed in an early stage of development, which he called *germination ganglionnaire* before there was any visceral infection. The paper was based upon 250 cases observed by M. Barot himself and the diagnostic signs on which he relied were four in number, deriving their value from simultaneous occurrence. They were loss of weight, weariness in the morning, a painful sensation when pressure was made on the vertebræ and the sternum, and an abnormal rough resonance of the lower register of the voice over the vertebræ; there were, moreover, a number of auxiliary signs which served to confirm the diagnosis. M. Barot said that this early stage of tuberculosis was of very variable duration and that during this period judicious dieting and treatment had an excellent effect. The investigation and recognition of this developmental stage were of great importance for the prevention of tuberculosis.

Old Age Pensions.

The fifth commission of the municipal council of Paris has fixed at 30 francs the amount of the monthly sum payable from the commencement of 1907 to aged persons who benefit by the Pensions Act (*la loi sur l'assistance obligatoire*). This decision remains to be confirmed by the council which at the same time will have to provide the requisite funds. The general council of the department of the Seine will also have to consider the whole question in connexion with the confirmation of recommendations of a similar nature made by the communes of the department.

Pseudo-Hermaphroditism due to Hypospadias.

At a meeting of the Surgical Society held on Dec. 19th, 1906, M. Pozzi communicated an observation made by Dr. Barnsby on a male child who had up to the age of 12 years been regarded as a girl. The child's fondness for the society of girls and various traits of character led the parents to have him thoroughly examined by Dr. Barnsby who found that the case was one of hypospadias and that there was a testicle in one of the supposed labia majora. To remedy this abnormality Dr. Barnsby performed an operation in several stages. He first straightened the penis by dividing a band, then formed the distal extremity of a penile urethra, and joined it to the existing urethral orifice by flaps which also closed the hypospadial aperture. The result was excellent.

Bequest to the Pasteur Institute.

M. Audrac, a recently deceased landowner in the department of the Eastern Pyrenees, has bequeathed to the Pasteur Institute his whole fortune, which is estimated at more than 1,000,000 francs. The notary of Luc, the town in which the testator resided, has come to Paris to see Dr. Roux and to inform him of the facts. Some time must elapse before the Pasteur Institute will know whether it is the sole heir, as the will conveying the bequest is of old date and there is a possibility that the deceased may have made a later one which still remains to be found.

Jan. 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Sleeping Sickness.

Professor Robert Koch, who some time ago made his third visit to Africa, has sent a report of his investigations on the subject of sleeping sickness to the Imperial Health Office and this report has been published in the *Deutsche Medizinische Wochenschrift*. He first proceeded to the district of Muansa in German East Africa, but found that, although glossina palpalis, the insect which conveys the parasite, was prevalent, there were no cases of the disease at that place. Professor Koch was therefore very gratified when the British commissioner of Uganda, Mr. Hesketh-Bell, invited him to stay in one of the Sese islands and to make use of the laboratory at Entebbe. He was told by the missionaries that the epidemic had been so disastrous for the inhabitants of the island that their numbers had fallen from 30,000 to 12,000 within four years. There were, however, very few patients in the hospital, because the natives did not bring sick persons for treatment, believing that medical science was unable to give relief. Professor Koch first examined the blood of the patients, but in 180 cases the trypanosoma was discovered only three times. As this result was very unsatisfactory and in contradiction with the clinical symptoms the next step was to examine the lymphatic glands of the neck, which are always swollen in this disease. According to the statements of the English medical men, Dr. Gray and Dr. Graig, the trypanosoma was discovered in 160 cases out of 163. As from 60 to 70 per cent. of the population have swollen glands and as of the remainder a great number have certainly contracted the disease, prophylactic measures were of no use but the desideratum was to destroy the trypanosoma within the patient's body. An arsenical compound known as atoxyl (meta-arsenic anilide) was especially tried. Subcutaneous injections of 0·5 gramme made on two successive days did not produce any toxic effect and puncture of

the glands showed that the trypanosomata had disappeared. In some cases the parasites reappeared after about ten days but these were exceptional. In serious attacks the treatment had to be repeated after ten days and in slight cases after 15 or 20 days. No undesirable symptoms were observed even when the injections were made for the third or fourth time. Puncture of the glands showed that trypanosomata were still present six hours after the injection but that they totally disappeared after eight hours; at the same time the general state of the patients improved. The news of the success of the treatment soon became widely spread by the patients themselves among the population and crowds of natives therefore came from the islands and from the mainland in the hope of obtaining benefit. On some days about 800 persons presented themselves with this object. Owing to the relatively small available quantity of the remedy only a minority of the patients—namely, 359, of whom 80 were severe cases, were selected. In his last report, dated Nov. 5th, 1906, Professor Koch states that he has become persuaded that atoxyl is as certain a remedy against sleeping sickness as quinine is against malaria. He had meanwhile employed the treatment for 900 severe cases and the patients improved so much that it might be stopped after two or three months. The patients must then be kept under observation for the same period in order to ascertain whether relapses occur or not.

Cancer of the Appendix.

At a recent meeting of the Berlin Medical Society Dr. Theodor Landau spoke on the subject of primary cancer of the appendix. He said that up to the present time only 58 cases of this condition have been described in medical literature and that in the majority of cases it had been found accidentally. In about 60 per cent. of the cases the growth was situated at the apex of the appendix and the surrounding tissue showed an inflammatory reaction. In two instances the growth had perforated through the abdominal walls, forming a fistula, but a perforation into the abdominal cavity had never occurred, neither were metastases frequent. The clinical symptoms were those of appendicitis, except that the pain, instead of being dull as in appendicitis, was cutting and lancinating, and was especially severe at night. Relapses very seldom happened after the removal of the appendix. The cases were, as a rule, believed to be appendicitis and it was only in the course of the operation and afterwards by microscopical examination that the nature of the growth was ascertained. In a case where he had performed a laparotomy for myoma he removed the appendix because it was found to be swollen. Subsequent microscopical examination proved that it was affected with cancer. In every laparotomy for whatever cause the appendix should be the object of careful examination.

Honour to Professor von Bergmann.

The seventieth anniversary of the birthday of Professor von Bergmann was made the occasion of various celebrations by the medical profession of Berlin and elsewhere, showing the esteem in which he is held by his professional brethren and his numerous patients. On Dec. 18th, 1906, a banquet took place at which were present Professor von Bergmann himself, some members of his family, his present and former assistants, many civilian medical men, and officers of the Army Medical Corps. Professor Heubner, the dean of the Berlin Medical Faculty, proposed the health of Professor von Bergmann, and Professor von Augerer of Munich proposed the health of his family. Professor von Bergmann, in his reply, said that he was as a young man far from having a special inclination to the study of medicine; to the great amusement of the assembly he told them that his original intention was to become a clergyman but as by a decree of the Emperor Nicolas (Professor von Bergmann is a Russian by birth) the total number of ecclesiastical students could not exceed certain limits, he was refused matriculation in the faculty of theology and therefore became a medical student. He declined to be compared with geniuses like the late Professor Billroth or Lord Lister but said that he was always favoured by circumstances, as in the choice of his career. Professor von Bergmann, who is president of the Berlin Medical Society, was made honorary president on the occasion of his birthday. It is reported that he will soon retire from his post and that Professor von Eiselsberg of Vienna will not improbably become his successor.

Jan. 7th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Serotherapy.

THE new year opens with an important adjunct to Italy's resources—the new Sero-Therapeutic Institute at Milan. The inaugural ceremony, which attracted a numerous audience of the profession and the lay public, was conducted by the Senator Luigi Mangiagalli of the "Istituto Lombardo di Scienze e Lettere," who, in a rapid and vivid sketch, recalled the first inception of the institute in 1894, its excellent work in spite of adverse vicissitudes, financial and other, and finally, its development into the enlarged and virtually new institute just entering, under happy auspices, on its beneficent career, curative, hygienic, and scientific. In the stately and fully equipped edifice in which it is now accommodated the staff of the institute may reasonably be expected to improve on its record, honourable as that record has been for its great and successful experiments in the immunisation of oxen with the bovo-vaccine of Behring and also for the educative function which it has discharged in the initiation and equipment of similar institutes throughout Italy which have, in turn, become centres of post-graduate study. Professor Belfanti supplemented the Senator Mangiagalli's discourse with a history of the scientific discoveries to which the institute owed its origin, dwelling on the importance of the "infinitely little" in biology and medicine and citing the names of Davaine, of Pasteur, and of the less known but hardly less epoch-marking Cornalia whose discovery of the organic nature of the active cause of the silkworm disease paved the way for other workers in the same field. Coming to the productive output of the institute, he showed that it supplied 20,000 *boccette* (tubes) of antidiphtheritic serum and saved 6000 infantile patients a year, to say nothing of other preparations directed against other maladies. Besides curative serums it provided protective or prophylactic serums, such, for example, as the "serum anticarbunculosum" (a preparation which previously had to be imported into Italy from France), with the result that the home-made Italian serum has been effectively applied to 800,000 cattle. In small-pox the work of the institute had been not less signal, destined as it now is to become the chief source of supply of the "vaccino Jenneriano" throughout Italy. In every department indeed of sero-therapy the institute promises rapid and extensive improvement in the beneficent work which it has already achieved and in its rehabilitated and completely equipped development constitutes—to the honour of Milan—a noble "New Year's gift" to the nation.

Arturo Calvo.

At the early age of 29 years this accomplished physician has fallen a victim to professional duty in the Florentine Clinique, of which he was an able and highly esteemed member. His university career was a distinguished one and after having won the coveted "Tacchini prize" he proceeded for post-graduate "perfezionamento" to Germany and thence to Paris, making, during his two years' sojourn, special studies in the physiology and pathology of the stomach. His conclusions have been embodied in a publication already popular in the profession, though but the prelude to further work in the same important field. Having contracted typhoid fever at his post he finally succumbed to the disease in spite of the skill and care of his colleagues who, I understand, are preparing a permanent memorial of him in the clinique which he served so well.

The Darwin Centenary.

Though still about two years off, the hundredth anniversary of the birth of the author of the "Origin of Species" (Feb. 12th, 1809) has already evoked the commemorative enthusiasm of his admirers—and their name is legion—in all the Italian seats of learning. The recent death of Brunetière whose work on the "Bankruptcy of Science" impressed the continent so vividly, followed by the tributes to his able if ineffectual advocacy of a declining cause, has prompted Dr. Mario Cermenati, professor of the history of the natural sciences in the University of Rome, to a stirring vindication of the great exponent of evolution. Highly successful before its academic audience, it is now, in its printed form, being widely read by the general public as the prelude to a tribute, organised on a national scale, to the memory of the great

English philosopher. It is proposed in some quarters to celebrate coincidently with that of Darwin's birth the centenary of the publication of Lamarck's "Philosophie Zoologique," by many considered as an anticipation, however indecisive, of the "Origin of Species." This, however, by the way. Italy is sure to have the support, in continental Europe, of other nationalities besides those of Latin lineage with whom the doctrine of evolution has had from the first a peculiarly hospitable reception.

Jan. 7th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Overcrowding and Infantile Mortality.

IN a paper read at a recent meeting of the Medical Society Dr. Pach called the attention of the medical profession and of the Government to the importance of prophylactic measures especially in the protection of children from the evils of overcrowding. He selected Budapest as a field for his researches because it was a large city undergoing rapid and continuous increase and the subjects which he took for investigation were, on the one hand, the influence of modern conditions of life upon the development of diseases and the death-rate, and, on the other hand, the general hygiene of modern dwellings and occupations. He found that from the year 1874 until 1900 the mortality of infants and children up to the age of five years had steadily increased from 26·7 to 29·9 per cent., and if the figures for the different districts of the city were tabulated separately a very close relation between overcrowding of dwelling houses and the mortality of children was brought out. For instance, in the factory districts of the city from seven to 11 persons occupied a lodging which consisted of from one to three rooms, whereas in the other districts of the city from two to five persons occupied a lodging which consisted of from two to five rooms. The factory districts showed an annual general mortality exceeding 25 per 1000 and an infantile mortality exceeding 120 per 1000, while for the city the general mortality was 21 per 1000 and the infantile mortality was 95 per 1000. When station in life was taken as a basis of computation it was found that against 285 children of the well-to-do classes 4780 children of the poorer class died in the year 1904 and of these 270 succumbed to pulmonary tuberculosis. In the same year 2920 persons died from pulmonary tuberculosis, of whom 86 per cent. were poor and only eight (i.e., 0·27 per cent.) were well-to-do. More than 48 per cent. of these deaths occurred in rooms on the ground floor or below the level of the street. This showed that the primary requisite for the prevention of tuberculosis was not the erection of sanatoriums and hospitals but the better housing of the poor. The motto of the reformer ought to be "houses for the healthy" rather than "hospitals for the sick." In the interest of the public health there was an urgent necessity for the demolition of insanitary buildings and slums, the prevention of overcrowding, the erection of working-class dwellings, the improvement of the building regulations, the prohibition of the modern system of over-building on insufficient areas, the enactment of regulations fixing the maximum number of occupants for each house or part of a house, and the prohibition of subletting. What was wanted was, in fact, more light and more air.

A Dermoid Tumour of the Scrotum.

Dr. Porges recently had an opportunity of showing a very rare example of dermoid tumour which on account of its position had several times been mistaken for some other disease. The patient was 22 years of age. Inspection showed that the scrotum contained three swellings, the upper two of which were easily recognised as the slightly enlarged testes, whilst the lower tumour was quite isolated. When the reflex of the testes was elicited the lower tumour did not move, thus proving that its origin was not situated within the testicles or their sheaths; the diagnosis of hydrocele or spermatocele could therefore be excluded. The size of the tumour was about equal to that of a man's fist; it reached to the perineum; the integuments were normal, easily folding. The scrotal rhaphe was situated exactly in the middle of the soft elastic tumour. A puncture showed the presence of an oily fluid. A diagnosis of dermoid cyst of the scrotum was made and was afterwards proved by operation to be correct.

The Consumption of Tobacco in Austria.

Statistics compiled by the Government departments show that the consumption of tobacco in Austria is slowly decreasing. Cigarettes are on the whole more favoured than formerly and have to some extent displaced cigars and pipes. Neurologists find in this an explanation of the increase of neurasthenia amongst both young men and men of advanced age, as the sale of cigarettes and cigarette tobacco has increased by 15 per cent. in one year. As regards the quality of the tobacco, the better sorts are in most request, showing that the nation, or at least the smoking part of the nation, is comparatively affluent. The total amount of 36,945 tons of tobacco works out at a yearly consumption of 1·33 kilogrammes (equal to three pounds) per head of the population. Austria stands in this respect fifth on the list of tobacco-smoking countries. Experiments made with a view to reduce the percentage of nicotine contained in tobacco have resulted in the production of two types of cigarettes called "nicotine-free" which, however, in reality are only "nicotine-poor." By treating the tobacco leaves with a 1 per cent. solution of caustic potash and afterwards washing them well about 50 or 60 per cent. of the nicotine is extracted so that the alarming symptoms of nicotine poisoning are less likely to arise. When, however, 30 or 40 of these new cigarettes are smoked in a day there is no difficulty in recognising that they are not quite free from the poison.

Paying Hospitals in Vienna.

The grievances of the medical profession, which are already ample and well founded, are to be increased by a new scheme of the Government which is contemplating the erection of paying wards or rather the addition of such wards to the existing accommodation in the general hospitals. These new wards are to be available for such classes of the population as cannot afford to pay for beds in expensive private sanatoriums but are unsuitable cases for the public hospitals under present conditions. It is expected that for a payment of 10 kronen (about 8*s.*) a day patients may obtain in these wards a room with one bed and for 6 kronen (5*s.*) a day accommodation in a room with from two to four beds. But the directors of the hospital wards are to be the visiting and consulting physicians, whilst the patients will be under the immediate care of the resident hospital staff. This latter restriction, which practically excludes the general practitioner from continuing to treat his patient, is naturally condemned by the greatest part of the profession. In spite of the protests that have been made and in spite of the opinions expressed by various hospital physicians the new scheme is being hastened forward by the Government with a view to increase the funds of the general hospitals, which have become rather depleted.

Medical Lectures in English.

As the number of English-speaking medical men (mostly Americans) at the University of Vienna is upwards of 100 several professors and *privat-docenten* have decided to deliver a series of lectures in English, so as to enable the foreign medical men to take part in these courses if they find difficulty in understanding German. The fees for such courses amount to about £4 4*s.*, or at the most to £8 8*s.*, and the number of the students is as a rule restricted, especially in the classes of gynæcology and surgery. There is at present no special English Association in Vienna but a branch of the American Medical Association has been established and conducts a number of courses which may be taken by any English-speaking medical man.

Jan. 5th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Matters of Hygiene in Public Schools.

THE Ministry of Public Instruction has taken energetic measures to improve the hygienic and sanitary conditions of all the Turkish public schools in the metropolis, which up to now were in a very unsatisfactory state. It was found, for instance, that many of these schools were never heated in winter, the children thus being exposed to cold and frequently suffering bitter consequences of such reckless treatment. The sanitary inspectors and some of the medical men of their respective districts seem to have

neglected their duties of proper inspection, visiting the schools but very rarely and in a superficial manner. In spite, however, of such casual fulfilment of their obligations they never omitted to send in eloquent reports of their work and of the flourishing conditions of sanitary matters in the schools. Many of these schools are overcrowded, dark, damp, and with extremely foul lavatories. The Ministry of Public Instruction intends now to remedy matters in a most energetic manner. The guilty sanitary inspectors and medical men will be dismissed, more conscientious individuals appointed to occupy their place, and the school-buildings will receive the most careful attention.

New Regulations Concerning Imported Drugs.

Henceforward no drugs will be permitted to enter the Turkish Empire the composition of which is not known or the purity of which is below the required standard. If, however, these drugs are accompanied by certificates of some acknowledged official medical administration only indicating the elements of the composition, and if these certificates are submitted to the Custom House officials, the medicines will be allowed to be imported. Yet the certificates must be legalised by the Turkish consuls abroad. Altogether forbidden are drugs and compositions which contain such ingredients as cocaine, picrotoxin, anti-tuberculous serum of Koch, and cannabis indica (preparations containing hashish). Prohibited also are chemical substances which can be used for the manufacture of explosives, such as chlorate of potassium, chlorate of sodium, nitrate of potassium and sodium, the picrates, nitroglycerin, &c. These substances will always be confiscated as soon as they arrive at the Custom House.

The Rules of Moslem Conviviality.

In one of my previous letters I spoke of the rules laid down by Islam usage and precept as to how to behave appropriately and religiously at a dinner table. Here are some other interesting Mussulman injunctions of conviviality. The honour of being served first belongs to that of the invited guest who is in the possession of any high title or who has, in any way or sphere, distinguished himself. If the host himself is the oldest in the company or has any high decoration of merit he must first begin the meal without delay, in order not to let the others unduly wait. It shows bad up-bringing to be in a melancholy mood at table, or to speak of disagreeable things, or to engage in inappropriate discussions on matters of religious piety. Foremost of all, one must always be in good humour and talk of pleasant things, as did the Prophet himself. You must always help yourself from the side of the dish nearest to you and never try to find out the best bits, which ought to be left for other guests. If one of the invited has not much appetite you must ask him up to three times, with some kind chosen words, to partake of the meals. A longer insistence would cause *ennui* and would be most inappropriate. You must never stop eating before others, because in doing so you will embarrass them and cause them to finish quickly in imitating you. Never eat gluttonously but also never attempt to conceal your good appetite. Always eat little by little. Exaggerated compliments are always misplaced. The host's duty is to make his guests feel as comfortable as possible, encouraging the timid and shy. It is contrary to good taste to address and to fix the attention of a guest when he is eating. Even if the host is not accustomed to eat much he must always try not to finish before others. Should any dish be forbidden to him by his medical attendant he certainly must not partake of it but must, at the same time, excuse himself before his guests. It is absolutely necessary to avoid every movement or gesture which is apt to create disgust. One must, for instance, never tell anecdotes of a doubtful nature, never remove pieces from the mouth, and never sneeze without turning away one's head, never yawn, or clean the nose, or approach the head too near the dish. On quitting the table everyone should wash his hands, the most distinguished in the company first of all. Always wash them standing, never spit on the floor, and rinse well the mouth. It is good and pious work to invite friends to dinner, and especially people of the same religion. On the great day of judgment the time spent in good company with the necessary observation of the enumerated rules of conviviality will be accounted to one as a high merit. It is therefore advisable to eat slowly in order to prolong this time. Never go to a dinner party without being invited unless you are a very intimate friend of the host. In the last case it is even permissible to enjoy a dinner at a friend's house without his presence, as did very frequently the Prophet himself and his disciples. A good Mussulman ought always to have a few ready dishes for some chance friends or people of his own religion. He must, however, never fall into debt and never entertain others at the expense of his own household. If you enter a house where feasting is going on never take part in it without being invited. If you happen to notice that the invitation extended to you is not sincere leave the house under some pretext or other as soon as possible, not, however, without having previously tasted some little bit. This is a sign of good up-bringing and shows the spirit of perfect courtesy.

Jan. 3rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Immigration Statistics for 1905–06.

THE United States Secretary of Commerce and Labor has submitted his report for the year ending June 30th, 1906. It appears that during that period there applied for admission to ports of the United States 1,178,785 aliens, 12,432 of whom were refused admission. This total represents an excess over the arrivals of the preceding year of 152,286. Three European countries contributed, approximately, 69 per cent. of the total—viz., Russia, 215,665; Austria-Hungary, 265,138; and Italy, 273,120. Notwithstanding the large numbers from Italy and Russia shown last year, the increase from those countries was 51,641 and 30,768 respectively. On the other hand, those countries the people of which are more nearly allied in race and social standards to the people of the United States have furnished fewer immigrants. Thus the number of immigrants applying for admission from Ireland decreased 17,950; England, 15,218; Sweden, 3281; Germany, 3010; Denmark, 1229; and Scotland, 1111. The Secretary suggests that if the number of aliens brought on any vessel were so limited as to bear a fixed ratio to the tonnage of each vessel, by making the ratio sufficiently large not only would there be an actual diminution in the total arrivals but many of the incidents of suffering and discomfort attendant upon steerage travel would be obviated.

War upon Preserved Candy under the Pure Food Law.

The Pennsylvania authorities have begun a war against "The Glucose Trust." The contention is that the sulphurous acid in the glucose, which is used principally in the manufacture of candies, is in sufficient quantities to make its use a violation of the food laws of that State. At least 500 small dealers in candies have been arrested in Pennsylvania charged with using the chemicalised glucose in their candies. The dealers appealed to the "Trust" for aid which was immediately granted, as they were the best customers of the company. The "Trust" paid all fines and immediately undertook to discover some adequate substitute for the sulphur dioxide. The loss to the company by these prosecutions is estimated to be $500,000.

Railroad Casualties in the United States.

The Interstate Commerce Commission has published its annual report on railway casualties in the United States, from which it appears that 4225 persons were killed and 66,709 were injured. Of these numbers 418 passengers were killed and 11,185 injured, and 3807 employees were killed and 55,524 were injured. There is a great increase of injured in the last report over the preceding years, but the commission makes no statement as to the causes for the increase, whether it is due to growing business, efforts to attain greater speed, or increased carelessness of employees. The greatest number of deaths and injuries of passengers from a single cause is given in the tables as, "from falling from cars while getting on or off." The same statement is true of deaths and injuries of employees.

Abolishing Mosquito-breeding Areas.

The State of New Jersey, which has long suffered from the mosquito pest, has taken measures to exterminate the evil by radical legislation. The law recently enacted makes it the duty of the Director of the State Experimental Station to have all the salt marsh areas of the State surveyed and maps made indicating all of the mosquito-breeding places found on such areas, together with a memorandum of the method to be adopted in dealing with such places, and the probable cost of abolishing the same. Likewise, surveys and maps will be made of

fresh-water swamps or other territory suspected of breeding malarial or other mosquitoes, at the request of any local board of health. The local boards of health are to be informed of the mosquito-breeding places shown on the maps of salt marsh areas and notice given to the owners to abate the nuisances and if the owners fail to comply the boards of health are to act. In all investigations under the provisions for the survey of fresh-water swamps, or other suspected territory stated, the report to be made shall state what mosquitoes were found, whether they are local breeders or migrants from other points, and, in case of migrants, their probable source, whether the territory in question is dangerous as a nuisance because of mosquito breeding, and the character of the work necessary to abate such nuisance and abolish the breeding places. Boards of health must then proceed to abolish the breeding places under their general powers and when necessary the State may assist the local authorities.

The Appointment of School Physicians.

The State of Massachusetts has passed a law providing a rigid medical supervision of the health of its school children. The school committee of every city and town in the Commonwealth is required to appoint one or more school physicians and assign one to each public school of the city or town with proper facilities for the performance of their duties. The physician is required to maintain a careful inspection of the school children, the teachers, janitors, and school buildings. Whenever a child shows symptoms of small-pox, scarlet fever, measles, diphtheria, chicken-pox, tuberculosis, tonsillitis, whooping-cough, mumps, scabies, or trachoma he shall be sent home immediately and the board of health shall be notified. Every child in the public schools shall be separately and carefully examined and tested, at least once in each school year, to ascertain whether he is suffering from defective sight or hearing or from any other disability or defect tending to prevent his receiving the full benefit of his school work, or requiring a modification of the school work in order to prevent injury to the child, or to secure the best educational results.

International Sanitary Arrangements of the American Republics.

The Third International Conference of American Republics, held at Rio de Janeiro during the last summer, adopted the following recommendations relating to international sanitation:—1. The adoption of the agreement of the delegates to the Washington Conference of 1906 in regard to uniformity of quarantine regulations against cholera and yellow fever. 2. The adoption of measures to obtain the sanitation of cities, and especially of the ports, and to attain, as far as possible, to a better knowledge and a greater observance of hygienic and sanitary principles. 3. That all American nations attend the conference of 1907 to be held at the city of Mexico for the purpose of securing some form of international agreement on such sanitation, it being suggested that there should be a committee in each country devoted to securing information and transmitting it through a central bureau at Montevideo to the International Sanitary Bureau at Washington. The action of the Rio de Janiero conference marks a great advance over preceding conferences which related only to quarantine. This extension of the work of the conference is probably largely due to the communication of the surgeon-general of our public health service which was prepared at the suggestion of the Secretary of State and by him presented to the conference. This communication was a very able document showing the immense importance of international coöperation in general sanitation.

Jan. 1st.

HOSPITAL SUNDAY IN PLYMOUTH AND BRISTOL.—The total amount received by the South Devon and East Cornwall Hospital as a result of Hospital Sunday, which was observed in Plymouth on Oct. 22nd, 1906, was £855.—Jan. 27th is to be observed in Bristol as Hospital Sunday.

THE LATE DR. A. SHEEN.—At a meeting of the Cardiff board of guardians held on Dec. 29th, 1906, a letter was read from Mr. Bircham, the late Local Government Board inspector for the district, placing on record his high appreciation of the services of the late Dr. Alfred Sheen. The guardians unanimously passed a vote of condolence with Dr. Sheen's family, the chairman alluding to the loss which the workhouse infirmary had sustained through his death.

THE DIET OF TO-DAY.

THE question of the most suitable diet for the individual in health has been made the subject of numerous investigations in recent years. As to whether what is termed a full diet, containing a comparatively large amount of albuminous food or a diet including a much smaller quantity of such flesh-forming substances is better adapted for the conservation of physical and mental energy, the question is one upon which the opinions of scientific men are still a good deal divided. A lecture dealing with certain features of the diet problem was delivered by Professor W. D. Halliburton at the Incorporated Institute of Hygiene on Wednesday afternoon, Jan. 9th. The address was designed to be of a popular character and we are certain that the views of Professor Halliburton on some important phases of a matter that more directly concerns popular audiences than almost any that can be imagined will be read with interest. Professor Halliburton was on the side of the full diet, expressing the now unpopular view that it is safer to eat too much than too little. The experiments of Professor Chittenden of Yale University, although of first-rank importance, should be regarded, he thought, as by no means final. This well-known observer carried out a series of investigations in order to ascertain whether human beings did or did not eat a larger amount of albuminous food than was necessary and came to the conclusion that the intake of proteids by the flesh-eating races was far too great, and that the standard of 100 grammes daily set by Voigt should be reduced to about half that amount. Professor Halliburton pointed out that while nitrogenous food is essential for the repair of tissue waste, the terms nitrogenous and nutritious must not be regarded as synonymous. Non-nitrogenous foods are equally necessary for the preservation of good health, as these supply energy and animal heat. Undoubtedly, a large amount of proteid food is not required for tissue repair, which means that its excretion causes waste of energy. It is, therefore, regrettable that most well-to-do persons eat more meat and drink more alcohol than is good for their health. Nevertheless, Professor Halliburton did not think it wise to accept Professor Chittenden's views in full, for the reason that the minimum diet is not necessarily the optimum. In support of this argument the lecturer gave as examples the dietary of the poor in large cities and the small amount of nitrogenous matter eaten by vegetarians; both classes, he considered, showed less resisting power to hardship and disease than those who were meat eaters, the beneficial effects of generous feeding in pulmonary tuberculosis, and of the rest cure and good feeding for various nervous diseases were here quoted in support of the lecturer's attitude. He was, he said, of the opinion that the amount of proteid food should not be limited to subserve the repair of waste tissue, for this means to live on the margin of danger; but he thought that experiments on a far wider scale than Professor Chittenden's must be carried out before dogmatic statements would be safe.

Dr. Loathes, he reminded his hearers, has pointed out that in infants ten times the minimum quantity of nitrogen necessary for this purpose was provided by nature in their proper diet of milk, even allowing for growth. The real explanation of the usefulness of an apparent excess is that certain constituents of the proteid molecule are particularly essential for the building up of the tissues; the amount of those necessary constituents is very limited in the proteid molecule, and in order to obtain an adequate supply the body has to put up with a good deal of waste substance, but the large size of the liver appears to be an express provision of nature for dealing with this waste rapidly. The easy digestibility of the proteids of animal origin render them superior to those from the vegetable world and the so-called vegetarian has had perforce to recognise this by adding to his diet three of the richest products from the animal kingdom—viz., milk, cheese, and eggs. Vegetarianism in this sense would no doubt spread if the standard of cookery was raised, but bad cooking of vegetables rendered them more indigestible, whereas bad cooking of animal food did not possess this disadvantage so markedly. In reference to the Japanese the lecturer pointed out how sadly needed are accurate details of what this nation exactly does consume. There is no doubt that within

recent years their vegeterian habits have been largely departed from and some writers have in part attributed their recent vigour and success to this very circumstance. Referring to the Japanese, who are always adduced as models of plain living combined with efficiency, Professor Halliburton drew attention to the fact that no accurate information had been forthcoming as to whether the diet of our allies was so very poor in proteids as had been alleged. The supposition that the Japanese subsisted wholly on vegetable products could not be supported. Undoubtedly in recent years their vegetarian habits had been largely departed from, so that it was open to ask whether their recent vigour and success may not have had an exactly opposite origin to that so often attributed. On the question of milk Professor Halliburton urged that legislation was loudly called for in order to improve the supply and to prevent the undue addition of preservatives.

Obituary.

EDWARD ASHBY FARDON, M.R.C.S. ENG., L.R.C.P. LOND.

BY the death of Mr. E. A. Fardon we have lost one of the ablest and most experienced of hospital administrators in the metropolis. For nearly 30 years he was resident medical officer of the Middlesex Hospital. He came of Quaker stock; his father, owning salt mines at Droitwich, held the office of mayor there, and his mother was a Bell of Alton, a descendant of one of the original Quakers, and a relative by marriage of Elizabeth Fry and the Guerneys of Earlham. She died at the age of 94 years at Reigate and to the last wore the dress and lived the life of a typical "Friend."

Edward Ashby Fardon was born in 1846 and received his school education at the Quaker School at Sidcot in Somersetshire. On leaving school he joined his father in the salt works at Droitwich and there acquired business habits and knowledge which were of great value to him in after life. Here he worked till he was 27 years of age, but finding the business uncongenial he determined to enter the medical profession and defrayed the cost of his education partly by the money which he had managed to save and partly by winning scholarships and money prizes. He entered at the Middlesex Hospital in 1873, qualified as M.R.C.S. Eng. in 1878, and took the diploma of L.R.C.P. Lond. in 1879. He filled the office of house physician, junior and senior house surgeon, and that of resident obstetric assistant. While holding this office the post of resident medical officer to the hospital became vacant by the resignation of Mr. Henry Lucas, now surgeon to the West Suffolk Hospital, Bury St. Edmunds, and young Fardon was selected to fill the post. Here he found his life work, and although he had several tempting offers to engage in practice for which he had the best qualifications he steadily refused to entertain them and devoted himself with whole-heartedness to the interests of the Middlesex Hospital. Throughout his long term of office he enjoyed the complete confidence of the board of management, staff, resident staff, officials, and nurses, and to one and all of them he was ever ready to give the most sympathetic and enlightened assistance. Largely at his initiative, and always aided and guided by his counsel and wise supervision, many alterations and reforms have been effected in the hospital, the nursing department, and the school. Prominent among these may be mentioned the institution of the resident college for students, the Nurses' Institute and Home, the convalescent home, the laundry at Hendon, the removal of the kitchens from the basement to the upper floor of the hospital, additional wards, the operating theatres and sterilising apparatus, and the new cancer wing and cancer research laboratories. It may truly be said that there is no department of the hospital that does not bear distinct and lasting evidence of Fardon's administrative energy and ability. For several years he acted as honorary secretary to the Royal British Nurses' Association and was of great service in guiding the affairs of that body during a troubled period of its history.

Nearly two years ago it was discovered that Fardon had glycosuria and although he was carefully dieted and treated his friends were grieved to notice the only too evident signs of aging and lessened vigour. Last summer he contracted a "cold" which proved to be a tuberculous infection of the lungs. In spite of all that the best advice could suggest and the most attentive care provide, the disease rapidly progressed and on Jan. 2nd he quietly passed away at St. Lawrence, Isle of Wight. Mr. Fardon will be greatly missed as a wise and experienced officer and mourned by many as a faithful friend. His judgment was never warped by selfishness, and his delight in helping others was unfeigned. He was laid to rest in the well-known churchyard of the old Church of St. Lawrence on Jan. 5th. At the same time a memorial service was held in the chapel of the Middlesex Hospital which was filled with a congregation, including many distinguished members of the board of the hospital, the staff, and a large number of past and present students and nurses.

ANDREW BALFOUR, M.D. EDIN., J.P.

Dr. Andrew Balfour, of Portobello, near Edinburgh, died on Dec. 26th, 1906, at the early age of 54 years. He was born in Hong-Kong, but in 1854, when he was two years old, his father, who was also a medical man, returning from the East, began practice in Portobello. The son graduated at the University of Edinburgh as M.B. and C.M. in 1873 and took the degree of M.D. in 1877. For some years he was associated with his father in practice and on the death of the latter about 20 years ago he entered into partnership with his brother, Dr. John H. Balfour, also of Portobello. Dr. Andrew Balfour held the appointments of medical officer of health of Portobello, Poor-law medical officer, and medical officer to some of the mining companies in the neighbourhood. While he was thus actively engaged in the general practice of his profession he took a prominent place in all local schemes having for their object the betterment of life. He was the means of founding the Portobello Working Men's Institute, he supported and encouraged reading and recreation rooms in the adjoining village of Niddrie, he was an active member of local bowling clubs, he started the local branch of the Boys' Brigade, and he taught a young men's Bible class for 30 years. He was an office bearer in the Free Church for many years but after the union of the Free Church and the United Presbyterian Church he transferred his membership to the Established Church. He also held office in the local Conservative Association and took an active part in local political life. He had a pleasant, friendly manner and no one doubted the honesty and straightforwardness of his opinions and actions. He leaves a widow and four children. The funeral took place on Dec. 29th in presence of a large and representative gathering.

SAMUEL EDWIN SOLLY, M.D. DENVER, M.R.C.S. ENG., L.S.A.

Dr. Samuel E. Solly, who died recently in America, was the fourth of the seven sons of the late Mr. Samuel Solly, surgeon to St. Thomas's Hospital, who died in 1871. He was born on May 5th, 1845, and received his professional training at St. Thomas's Hospital, taking the diploma of M.R.C.S. Eng. in 1867, and that of L.S.A. in 1874. He at first practised in Savile-row where Mr. Solly, sen., also resided, but about the year 1874 ill-health caused him to seek a change of climate, and he accordingly settled at the small town of Colorado Springs, Colorado, U.S.A. Here he soon began to write on the subject of climatology, his first treatise being entitled "Manitou, Colorado, its Mineral Waters and Climate," which was published at Saint Louis in 1875. He was also the author of a "Handbook of Medical Climatology"; he contributed the article "Treatment of Tuberculosis" to Hare's "System of Therapeutics," and the article "Diseases of the Nose and Throat" to Loomis's "System of Medicine." His various writings have, no doubt, had a considerable effect in calling attention to the advantage of Colorado as a health resort. In 1886 he graduated as M.D. at the University of Denver. Dr. Solly took much interest in the work of various professional societies and organisations and had filled the office of president of the American Climatological Society, the Colorado State Medical Society, and the American Laryngological, Rhinological, and Otological Society.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. E. A. Atkinson, formerly professor of medicine and therapeutics in the University of Maryland,

Baltimore.—Dr. Alfred Buchwald, *privat docent* of pharmacology and therapeutics in the University of Breslau, where he enjoyed the titular rank of professor.—Dr. Georg Reinbach, *privat-docent* of surgery in the University of Breslau.—Dr. Karl Schoenborn, professor of surgery in the University of Würzburg and formerly professor in Königsberg, aged 66 years.—Dr. Schnetzler of Carlsruhe, well known for his numerous exposures of quacks and quack medicines.—Dr. Pietro Celoni, *privat-docent* of psychiatry in the Florence Advanced Medical School.—Dr. Venneman, professor of ophthalmology in the University of Louvain.

Medical News.

THE annual dinner of the British Gynæcological Society will take place on Thursday, Jan. 17th, at the Café Monico. Amongst those who have accepted invitations to be present are the President of the Royal College of Physicians, the President of the Royal College of Surgeons, the Director-General of the Medical Department of the Royal Navy, and the President of the Obstetrical Society of London. Mr. F. Bowreman Jessett will preside, and it is hoped that there will be a large attendance of Fellows. Any who have not yet intimated their intention of being present, and who intend to do so, are requested to communicate with Dr. Beckett-Overy, 24, Alexander-square, South Kensington, as early as possible.

DONATIONS AND BEQUESTS.—The treasurers of the Middlesex Hospital have received a donation of 1000 guineas from Mrs. Ralph Price to endow a bed in the female cancer wards in memory of her husband.—Mr. W. J. Tatem of Cardiff has given 1000 guineas to the Cardiff Infirmary for the endowment of a cot in memory of his deceased son, Master T. S. Tatem.

MEDICAL MAGISTRATES.—Dr. Lachlan Grant and Dr. R. R. Macnicol have been placed on the commission of the peace for Argyllshire.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLEN, SAMUEL H., M.D. Balt., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

COGHLAN, E. P., M.R.C.S., L.R.C.P. Edin., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

GUBB, ALFRED S., M.D., M.R.C.S., has been appointed Honorary Physician to the British Consulate at Mustapha Supérieur, Algiers.

LAMBKIN, F. J., Brevet-Colonel, R.A.M.C., has been appointed Lecturer in Syphilology at the Royal Army Medical College.

LATHAM, ARTHUR, M.D., B.Ch. Cantab., F.R.C.P. Lond., has been appointed Advisory Physician to the Hospital for Diseases of the Throat, Golden-square.

LAWRENCE, ARTHUR GARNONS, M.D. St. And., M.R.C.S., L.S.A., J.P., has been appointed Medical Officer of Health for Chepstow.

MARTIN, JAMES PIRIE, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Districts of Box and Colerne by the Chippenham (Wilts) Board of Guardians.

MIDDLETON, E. W., M.D. Balt., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

OSMOND, CHARLES HOLDWAY, L.F.P.S. Glasg., L.S.A., has been appointed a District Medical Officer by the Bristol Board of Guardians.

PATRICK, J. KING, M.B., Ch.B. Glasg., has been appointed Anæsthetist to the Glasgow Royal Infirmary.

PRINGLE, A. M. N., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ipswich District of the county of Suffolk.

SHORNEY, H. P., M.D., B.S. Melb., has been appointed Resident Medical Officer to the Hospital for Diseases of the Throat, Golden-square, W.

SINGTON, HAROLD S., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Assistant Physician.

BRIGHTON, HOVE, AND SUSSEX THROAT AND EAR HOSPITAL, Queen's-road.—House Surgeon, also Honorary Assistant Surgeon.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £80 per annum, with board, rooms, and attendance. Also Assistant House Surgeon. Salary £50 per annum, with board, rooms, and attendance.

CARMARTHEN, CARDIGAN, AND PEMBROKE JOINT COUNTIES LUNATIC ASYLUM, Carmarthen.—Junior Assistant Medical Officer. Salary £150, with rooms, board, washing, and attendance.

EDINBURGH SCHOOL BOARD.—Medical Officer. Salary £400.

FARRINGDON GENERAL DISPENSARY, Bartlett's Buildings, Holborn, E.C.—Honorary Physician.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, also Assistant Casualty Medical Officer, both unmarried. Salary in each case 25 guineas for eight months, with board and residence.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board, and lodging.

LEITH HOSPITAL.—Surgeon in the Out-patient Department for six months. Salary £30 per annum, with board.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon. Salary at rate of £75 per annum.

LIVERPOOL DISPENSARIES.—Head Surgeon, unmarried. Salary £200 per annum, with board and apartments. Also Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

MANCHESTER EAR HOSPITAL.—Assistant Surgeon.

MANCHESTER EYE AND EAR HOSPITAL, 25, St. John-street, Manchester.—Honorary Aural Surgeon and Honorary Ophthalmic Surgeon. Also Anæsthetist. Salary £10 per annum.

NEWPORT BOROUGH ASYLUM, Caerleon (Mon.).—Assistant Medical Officer, unmarried. Salary £125 per annum, with board, apartments, and attendance.

NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Physician for Diseases of Women. Also Dental Surgeon.

ROCHDALE INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Two Members of the Court of Examiners.

ROYAL SOUTH LONDON DISPENSARY.—Surgeon-in-Ordinary.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Honorary Physician.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Medical Registrar.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD, UNIVERSITY OF SHEFFIELD.—Chair of Pathology.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 a year, with board and apartments.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Two Assistant Resident Medical Officers, unmarried. Salary £80 per annum each, with board and lodging.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Senior Resident Medical Officer. Salary £105, with board, residence, and washing. Also Surgeon to Out-patients.

WAKEFIELD, WEST RIDING ASYLUM.—Clinical Assistant or Junior Assistant Medical Officer.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon. Salary £100 per annum, with board, rooms, and washing.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with rooms, board, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon under the Factory and Workshop Act at Burford, in the county of Oxford; at Richmond, in the county of Surrey; and at Gomersal, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

CARPENTER.—On Jan. 3rd, at St. John's House, Blackheath, the wife of Sidney M. Carpenter, L.D.S. R.C.S. Eng., of a daughter.

HEWER.—On Dec. 31st, 1906, at Church-street, Stratford-on-Avon, the wife of Earnshaw Hewer, F.R.C.S., of a daughter.

SNELL.—On Jan. 4th, at Adeane Villa, Buckhurst Hill, the wife of E. Arthur Snell, M.B. Lond., of a son.

MARRIAGE.

DITTMAR—WILKINS.—On Jan. 2nd, at Hartley Wintney Church, Winchfield, Hants, Frederick Dittmar, M.A., M.D., D.P.H., Medical Inspector to the Local Government Board for Scotland, to Catherine Beatrice Wilkins, M.A. Lond., daughter of Thomas Wilkins.

DEATHS.

MACDONALD.—On Jan. 2nd, at Inverary, Argyllshire, Francis Robertson MacDonald, M.D.

OLIVER.—On Jan. 4th, at Marseilles, Francis George Oliver, Superintending Physician, S. I. Railway, Trichinopoly, aged 43 years.

STEDMAN.—On Dec. 28th, 1906, John Stedman, M.R.C.S., of Pokesdown, Bournemouth, aged 68 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE COURTESY CALL.

To the Editors of THE LANCET.

SIRS,—The remarks of "A. S. S." in his letter to you on Dec. 22nd, 1906, contain advice to young practitioners respecting the importance of paying the courtesy call on their professional neighbours. Can I, in this writer's own words, ask for "your powerful influence to be exerted to impress this upon" those called upon—viz., that they should make a point of seeing that this courtesy call is duly returned. Personally, when I settled in a well-known Lancashire seaport town I called on the practitioners in the immediate neighbourhood of my predecessor's house and my own, and at least one-third of these calls remain unreturned to this day, and what makes it all the more serious is the fact that the chief delinquents were the senior men from whom one naturally would expect at least a knowledge of the commonest of courtesies. That this want of courtesy should accompany other breaches of medical etiquette is but natural, and it all goes to prove, as has been but feebly defended recently, the modern degeneracy of the present-day medical man. I feel certain if you opened your columns to a full correspondence regarding this subject the revelations which it could be possible to print would astonish even the most sceptical.

I am, Sirs, yours faithfully,

Dec. 23rd, 1906. THECLA W. ALBUM.

THE SIGNING OF MEDICAL BULLETINS.

To the Editors of THE LANCET.

SIRS,—A few years ago, at a meeting of a branch of the British Medical Association, and, I believe, also in your columns, there was a discussion about the appearance in the daily papers of the *names* of medical men in attendance upon people of any note. For a time matters improved, but lately the fault has reappeared very strongly. I could give you many instances during the last six months, but only in to-day's paper I see that Mr. Balfour and the Baroness Burdett-Coutts are ill and the names are carefully given of the medical men in attendance, as well as of the physicians in consultation. This is rather a marked contrast to the absence of names in the case of the recent illness of the Princess Royal. With ordinary care it can be avoided; but perhaps that is not wanted. The public scarcely care to know who is in attendance upon these and other sick people.

I am, Sirs, yours faithfully,

Dec. 31st, 1906. ANTI-ADVERTISER.

LIGHTING A COUNTRY HOUSE.

To the Editors of THE LANCET.

SIRS,—Before deciding on the nature of illuminant to be fitted to a house in the country I should be glad to learn through the medium of your columns whether the medical profession hold any definite opinion on the two following points. 1. Is electric light in the composition of its rays more injurious or fatiguing to the eyes than acetylene, incandescent coal gas, or incandescent petrol vapour, and, if so, which of these four lights is the least injurious to the sight? It would be interesting to have comparisons of these with each other and with oil lamps and wax candles, and to know whether the fatigue that many people complain of as a result of electric light is merely due to improper shading. 2. Are any poisonous fumes given off as a result of the combustion of acetylene gas, coal gas, or petrol vapour, and, if so, which of the three is the least objectionable on this score?

I am, Sirs, yours faithfully,

Jan. 3rd, 1907. LUMEN.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan 10th, 1907.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan.	4	30·108	N.W.	...	60	45	35	35	37	Fine
,,	5	30·328	S.W.	...	54	51	37	44	45	Overcast
,,	6	30·330	W.	...	61	49	45	46	48	Fine
,,	7	30·534	S.W.	...	51	48	37	37	38	Foggy
,,	8	30·538	N.	...	49	48	38	44	47	Overcast
,,	9	30·470	S.W.	...	50	48	43	42	44	Overcast
,,	10	30·322	W.	...	49	48	44	44	46	Overcast

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M.: Paper:—Dr. S. Phillips: Some Affections of the Pancreas.

TUESDAY (15th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M.: Communications:—Dr. F. W. Andrewes: Observations on MacConkey's Bile Salt Neutral Red Medium.—Dr. T. J. Horder: (1) Note on a Case of Typhoid Fever Diagnosed by Blood Culture in the Absence of Agglutination Reaction; (2) A Third Case of Influenzal Endocarditis Diagnosed by Blood Culture; (3) A Case of Gonococcal Endocarditis.—Mr. F. W. Twort: The Incidence of Spontaneous Cancer in Mice.

MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.30 P.M.: Exhibition of Medico-Legal Specimens. Discussion on Suicide and Sanity (opened by Dr. C. Shaw).

WEDNESDAY (16th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Exhibition of Mounted Specimens by Mr. Rousselet. Annual Address:—The President: The Flowering Plants of the Mesozoic Age in the Light of Recent Discoveries.

FRIDAY (18th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5 P.M. Cases will be shown by Dr. F. J. Poynton, Mr. H. S. Clogg, Dr. E. Cautley, Mr. P. L. Mummery, Dr. C. O. Hawthorne, Dr. T. R. Whipham, Dr. G. Carpenter, and others.

EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Microscopical Demonstration:—Dr. J. B. Murray. Paper:—Dr. E. F. Bashford: Real and Apparent Differences in the Incidence of Cancer.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. Galloway: Clinique. (Skin.) 5.15 P.M.: Lecture:—Dr. A. B. Kingsford: The Administration and Uses of Ethyl Chloride.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Pathological Demonstration:—Dr. G. C. Low. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Cliniques: Medical Out-patient (Dr. Whipham). Throat, Nose, and Ear (Mr. Carson); X Ray Demonstration (Dr. Pirie). 3 P.M.: Clinique:—Medical In-patient (Dr. Chappel).

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. Mackenzie: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. A. H. Cheatle: The Surgical Anatomy of the Temporal Bone, its Bearings on Suppuration (with lantern slides).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Low: Insects as Carriers of Disease in Tropical Medicine.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—10 30 A.M.: Clinique:—Medical Out patient (Dr. Auld). 2.30 P.M.: Surgical Operations (Mr. Carson); Clinique: Gynæcological Out-patient (Dr. Giles). 3 P.M.: Clinique: Medical In-patient (Dr. Leslie). 4.30 P.M.: Lecture:—Dr. Forsyth: Working Value of the Diseased Heart.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Cerebral Arterial Supply (Demonstration of Injected Hemispheres).

CHARING CROSS HOSPITAL.—4 P.M.: Demonstration:—Dr. Mott: (Medical). (Post-Graduate Course.)

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Berry: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. E. Cautley: Asthma in Infancy and Childhood.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Medical Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. 5 P.M.: Dr. Beddard: Practical Medicine.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.). 2 30 P.M.: Cliniques:—Dermatological (Dr. Meachen), Ophthalmological (Mr. Brooks), Medical Out-patient (Dr. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. F. Taylor: Medicine. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Mr. C. Nourse: Larynx.

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. R. Jones (Liverpool): On the Treatment of some Paralytic Deformities.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 P.M.: Clinical Lecture:—Dr. Davis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—2.30 P.M.: Cliniques:—Gynæcological Operations (Dr. Giles), Medical (Dr. Whiting), Surgical Out-patient (Mr. Carson). 4.30 P.M.: Lecture:—Mr. Edmunds: Diseases of the Thyroid Gland.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Syphilis: I., History and Primary Invasion (Constitutional and Local). Erythematous: I., Macular; and II., Maculo-Papular.

CHARING CROSS HOSPITAL.—4 P.M.: Mr. Waterhouse: Demonstration (Surgical). (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Dr. Voelcker: Peri- and Endo-carditis.

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. StClair Thomson: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Armour.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—9 30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds); Cliniques:—Medical Out-patient (Dr. Auld), Ophthalmological (Mr. Brooks). 3 P.M.: Clinique:—Medical In-patient (Dr. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Hemiplegia.

SATURDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

During the week marked copies of the following newspapers have been received: *Bristol Times and Mirror, North Devon Journal, Oban Times, Western Daily Mercury, Yorkshire Post, Liverpool Daily Post and Mercury, Liverpool Courier, Scotsman, Bradford Observer, Newcastle Chronicle, Daily News, Southern Daily Echo, Literary Digest, The Tribune, Wakefield Express, Westminster Gazette, Sheffield Independent, Exeter Gazette, Hereford Times, Portsmouth Evening News, Dundee Advertiser, Scientific American, &c.*

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1906, which was completed with the issue of Dec. 29th, were given in THE LANCET of Jan. 5th, 1907.

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